

3

LESSON

Understanding Native Applications, Tools, Mobility, and Remote Management and Assistance

EXAM OBJECTIVE MATRIX

SKILLS/CONCEPTS	EXAM OBJECTIVE DESCRIPTION	EXAM OBJECTIVE NUMBER
Understanding Windows Internet Explorer	Understand native applications and tools.	1.3
Introducing Accessory Programs	Supplemental	
Using the Snipping Tool	Understand native applications and tools.	1.3
Playing Back and Recording to Media	Understand native applications and tools.	1.3
Understanding Sync Center	Understand mobility. Understand libraries.	1.4 4.4
Using Windows Mobility Center	Understand mobility.	1.4
Understanding Remote Desktop Services	Understand virtualized clients. Understand mobility.	2.4 1.4
Understanding Remote Management and Assistance	Understand remote management and assistance.	1.5

KEY TERMS

ActiveX Filtering

cookies

Computer Management

cross-site scripting attack

cross-site scripting (XSS) filter

domain highlighting

InPrivate Browsing

Internet Explorer 9

Microsoft Management Console (MMC)**New Tab page****Notification bar****offline files****One Box****pinned site****playlist****Pop-up Blocker****Remote Desktop Connection****Remote Desktop Services****screen shot****SmartScreen filter****snap-in****Snipping Tool****Sync Center****Tracking Protection****Windows Media Center****Windows Media Player 12****Windows Mobility Center****Windows PowerShell****Windows Remote Assistance**

Your IT manager has asked you to find ways to help computer users be more productive and provide support services to them without requiring you to purchase third-party tools and software. You decide to brush up on the native applications in Windows 7, such as Internet Explorer 9, Snipping Tool, Windows Media Player, and Windows Media Center. To help remote users who run into problems with their software or who just need quick tutorials, you'll begin using Windows Remote Assistance. Finally, you plan to show frequent travelers how to use Remote Desktop Connection to access files from their home or work computers.

■ Understanding Windows Internet Explorer



THE BOTTOM LINE

Although Windows 7 usually ships with Internet Explorer 8, the most current Microsoft Web browser as of this writing is Internet Explorer 9, which is also the version that the 98-349 exam focuses on. Microsoft made many improvements to Internet Explorer 9—the Web surfing experience is now much easier, safer, and private than ever before.

Internet Explorer 9 is the latest Web browser from Microsoft. The browser is faster and less cluttered than previous versions, and it includes several privacy, security, and interface features that enhance the user browsing experience with a focus on usability and safety.

Microsoft introduced tabbed browsing in Internet Explorer 7 and has improved the feature in Internet Explorer 9. This feature allows you to keep all your favorite Web sites open within one Internet Explorer window. The Internet Explorer 9 interface also includes a large Back button, a consolidated menu, and a combined Address bar and search box (see Figure 3-1).

The **New Tab page** (see Figure 3-2) in Internet Explorer 9 appears when you click the **New Tab** button or press **Ctrl+T**. This page initially provides some thumbnails of Web sites you might

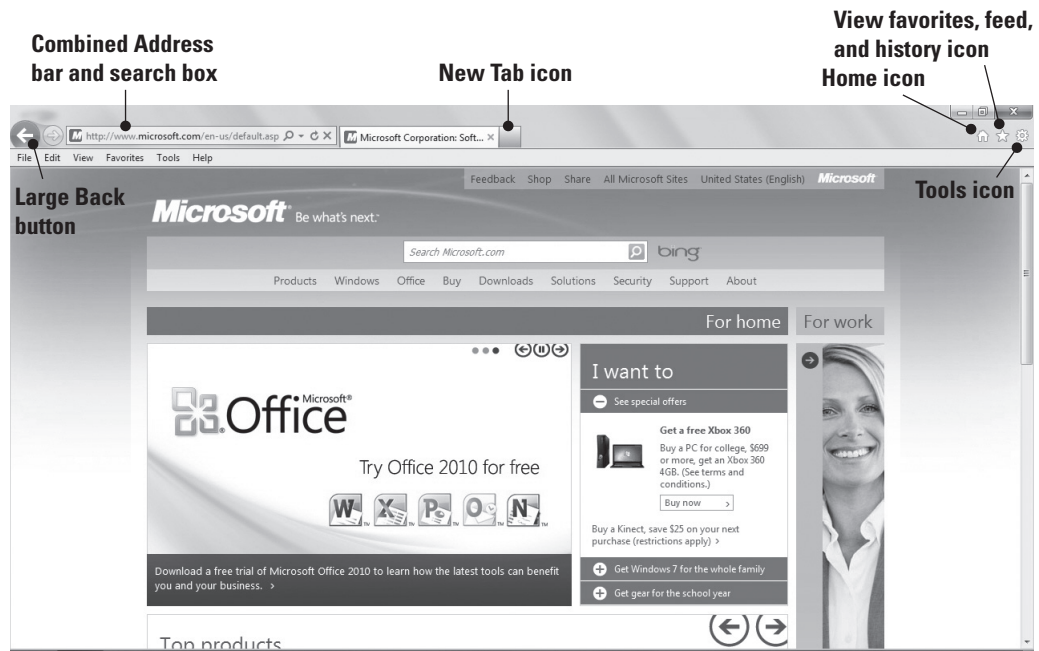
CERTIFICATION READY

What are some of the improved features of Internet Explorer 9?

1.3

Figure 3-1

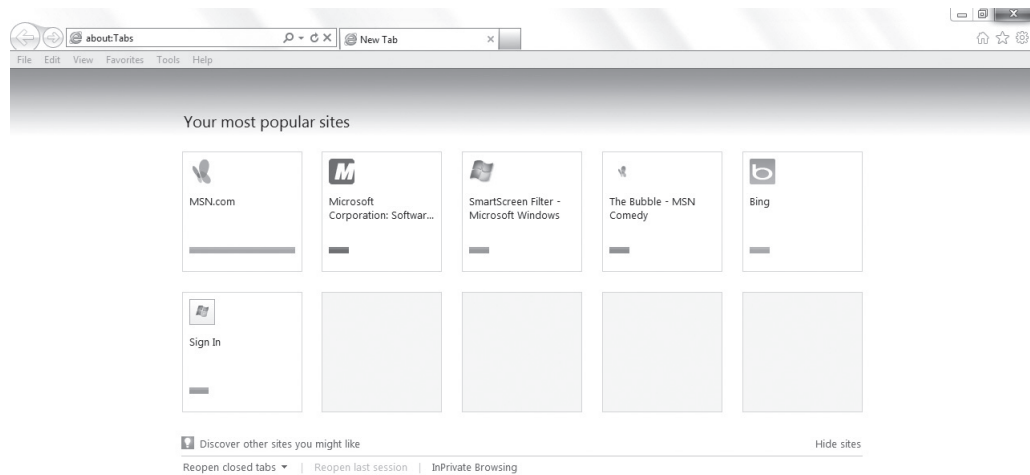
The Windows Internet Explorer 9 interface



be interested in visiting. As you use Internet Explorer 9, the sites you visit most often appear on this page, giving you one-click access to frequently visited sites. You can remove sites from the New Tab page by right-clicking a site's thumbnail and selecting **Remove this page** from the shortcut menu.

Figure 3-2

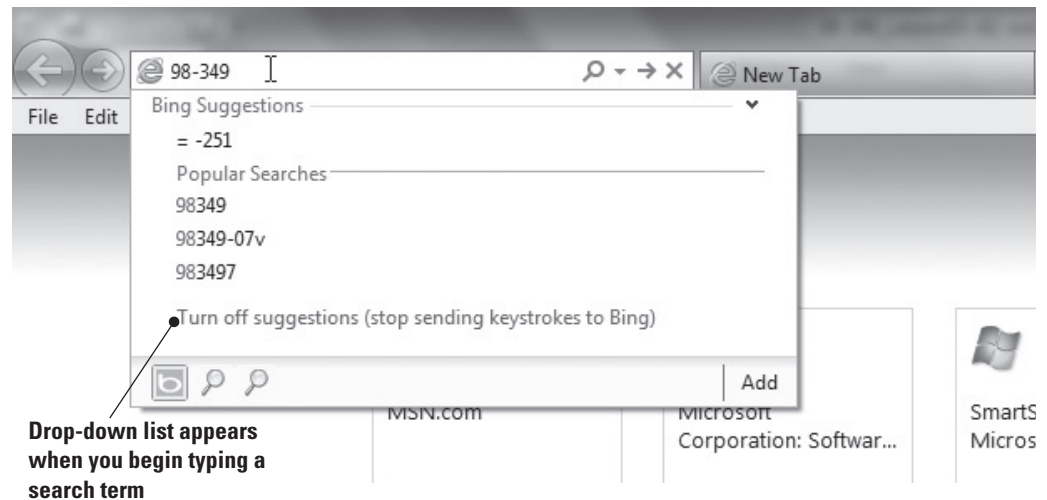
The New Tab page



The New Tab page also provides commands for reopening closed tabs and starting InPrivate Browsing, which is explained later in this section.

Internet Explorer 9 introduces **One Box**, a feature that combines search functionality into the Address bar. One Box saves you time by using AutoComplete to help you complete Uniform Resource Locators (URLs), and allows you to enter search terms directly in the text box like you would in a search engine. Relevant suggestions for your search appear in a drop-down list (see Figure 3-3) that you can select or you can continue typing and then press Enter to see results in the default search engine.

Figure 3-3
Searching within One Box



TAKE NOTE *

For privacy reasons, search suggestions are turned off by default. To enable search suggestions, select *Turn on suggestions* in the drop-down list.

Another new feature of Internet Explorer 9 is the **Notification bar**, which displays at the bottom of the browser window. All notifications, such as blocked pop-up windows and error messages, display in the Notification bar rather than in pop-up windows. You can click the options in the Notification bar or ignore them, depending on your preference.

+ MORE INFORMATION

For more information about Windows Internet Explorer 9, visit <http://windows.microsoft.com/en-US/internet-explorer/products/ie/home>

Using Pinned Sites

Pinned sites makes it easy for users to get to frequently visited Web sites.

A **pinned site** is an Internet Explorer 9 Web site you “attach” to the Windows 7 taskbar. A pinned site is simply a quick way to open a Web site, much like you open a program that’s pinned to the taskbar. Pinned sites let you access Web sites without having to open and navigate your Favorites list, or even open Internet Explorer first.



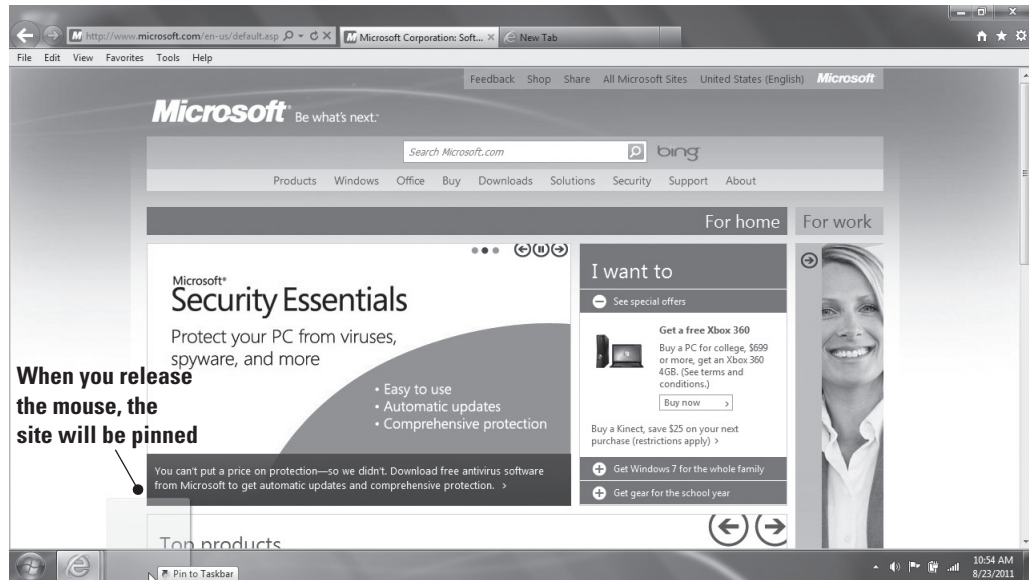
PIN A WEB SITE TO THE WINDOWS 7 TASKBAR

GET READY. To pin a Web site to the Windows 7 taskbar, perform the following steps:

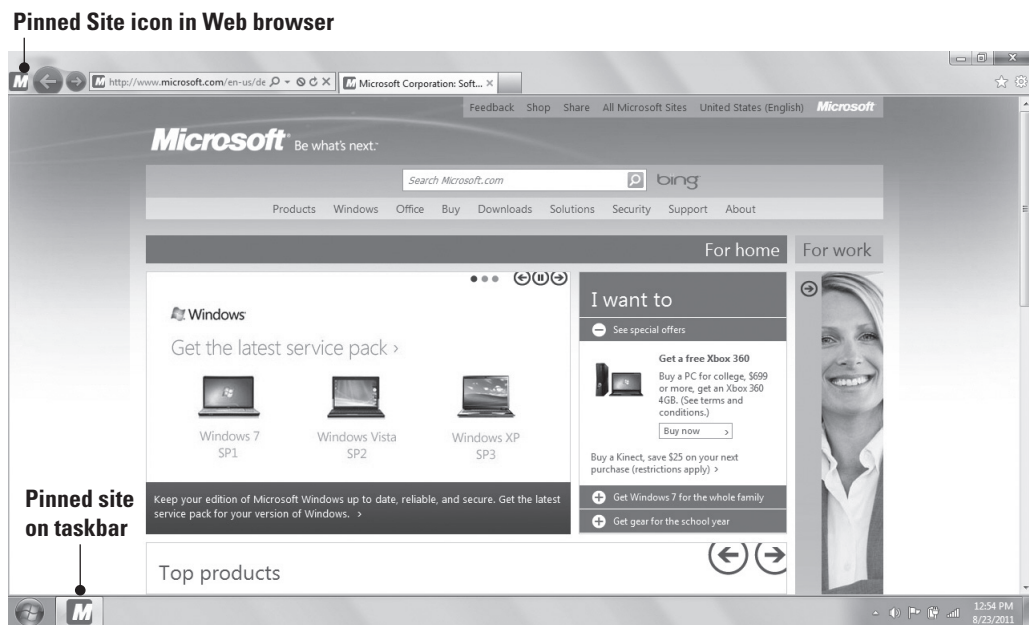
1. Launch Internet Explorer 9 and browse to any Web site.
2. Click the tab for the Web site and drag it to the taskbar (see Figure 3-4). You can also click and drag the Web site’s thumbnail that appears on the New Tab page. An icon for the pinned site also appears to the left of the Back button in Internet Explorer 9. The site also shows up as a thumbnail on the taskbar (see Figure 3-5). When you hover your mouse pointer over a pinned site, a preview appears if an Aero theme is enabled. If the pinned site is for e-mail, such as Microsoft Hotmail, you may see brief status messages such as the number of new e-mails that have arrived since you last checked your account.

Figure 3-4

Pinning a Web site to the taskbar

**Figure 3-5**

A pinned site appears in Internet Explorer 9 and on the taskbar

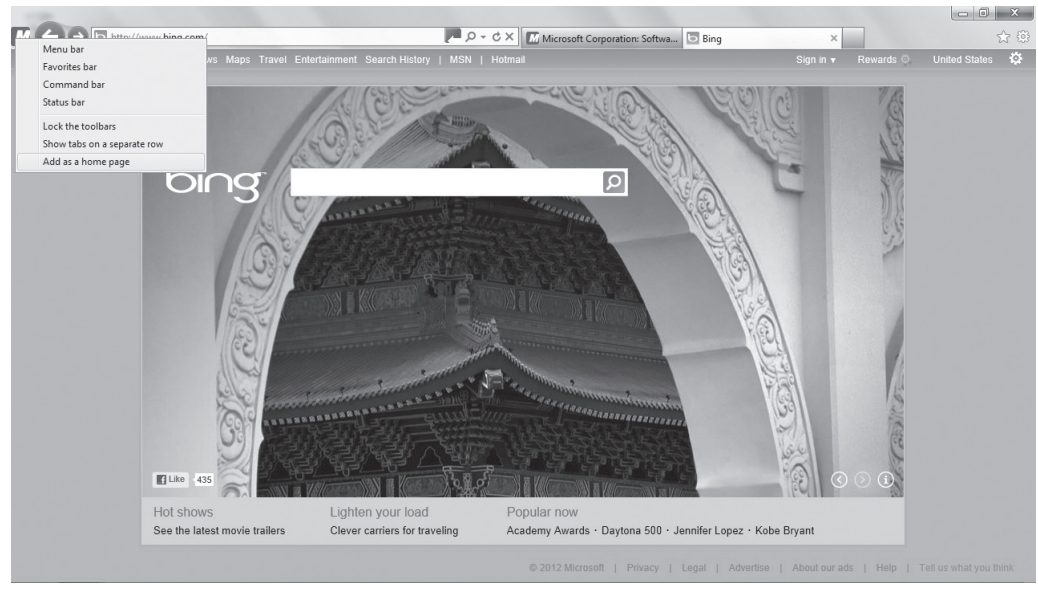


To pin additional Web pages to a pinned site so all pages open by clicking a single thumbnail, perform the following steps:

1. Open the pinned Web site.
2. Open the site you want to add, and then click its tab.
3. Right-click the pinned Web site's icon to the left of the Back button, and then click **Add as a home page** (see Figure 3-6).

To unpin a site from the taskbar, right-click the pinned site's icon and select *Unpin this program from taskbar*.

Figure 3-6
Adding a site as a home page



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+ MORE INFORMATION

To learn more about pinned sites, visit <http://windows.microsoft.com/en-US/internet-explorer/products/ie-9/features/pinned-sites>

Managing Security Features

The Internet is a great place to find useful information and entertainment, but it's also a vehicle for viruses, worms, and more dangerous attacks on users. Microsoft has included a lot of security and privacy features in Internet Explorer 9 to make Internet browsing a safer experience.

Internet Explorer 9 includes many features that help you protect your computer and privacy while surfing the Web. Some features have been around for a while, such as Pop-up Blocker, while others have been introduced in Internet Explorer 9. With the millions of viruses, worms, and other threats lurking on the Internet, it's highly recommended that you, at minimum, use the default Internet Explorer 9 security settings. You should even choose *more* secure settings for your safety.

You can change a variety of options for safety and security and general default behaviors in Internet Explorer 9 by clicking the Tools icon and then clicking Internet options. The Internet Options dialog box displays; this dialog box features tabs that allow you to customize your Web browsing experience. Let's look at the Security tab and the Privacy tab.

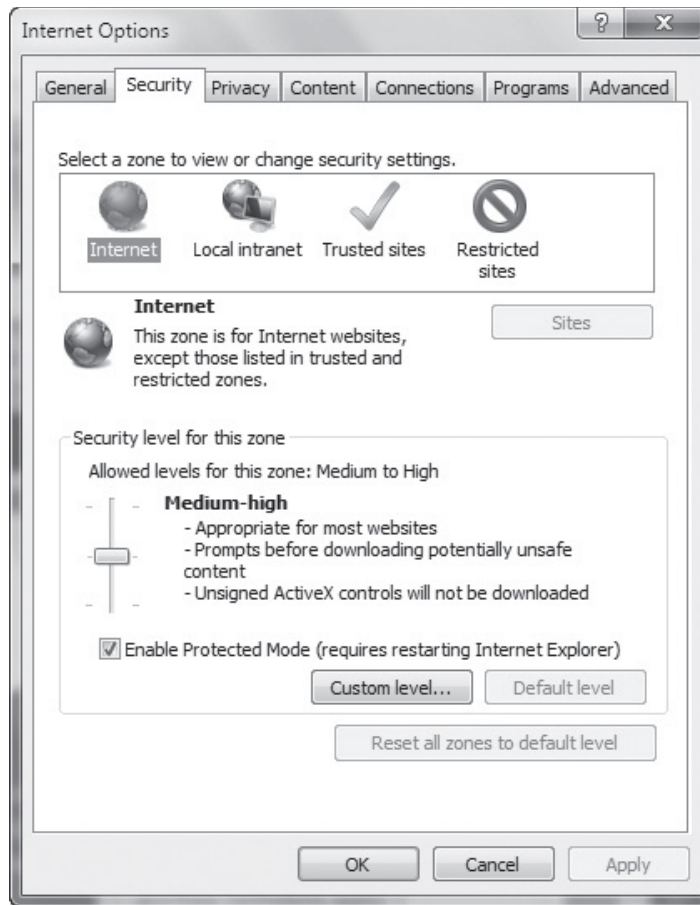
The Security tab (see Figure 3-7) is where you select a security zone, which is a group of security settings for a type of site: Internet, Local intranet, Trusted sites, or Restricted sites. For each zone, you can move the slider up or down to select higher or lower security settings. You can also click the Custom level button to customize individual security settings, such as scripts, ActiveX controls, .NET Framework, and more.

The Privacy tab (see Figure 3-8) also uses a slider to select levels of privacy controls, mainly for blocking or allowing cookies.

The **Pop-up Blocker** check box (selected by default) automatically prevents pop-up windows from appearing. Most pop-up windows are created by advertisers and appear when you first open a Web site. However, their content can be malicious, so the Pop-up Blocker feature prevents them from opening.

Figure 3-7

The Security tab

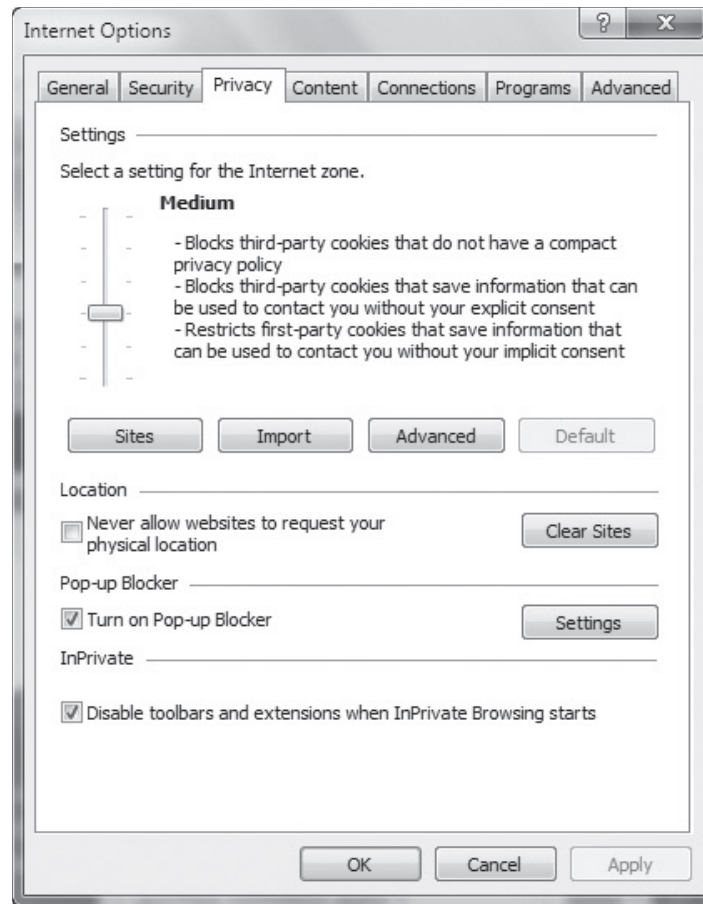
**TAKE NOTE ***

In Internet terms, “malicious” refers to viruses, worms, spyware, and other content that can harm your computer. Many of the security features in Internet Explorer 9 prevent malicious content from invading your computer.

Many other Internet Explorer 9 security controls are accessible from the Tools menu on the menu bar or the Safety menu on the command bar (if enabled). The first menu item is Delete browsing history, which allows you to erase Temporary Internet files, cookies, history, and many other “trails” of information all from a single dialog box (see Figure 3-9).

When you visit Web sites, your browser might store **cookies** (small text files that Web sites save to a computer’s hard disk that contain information about the user and his or her browsing preferences), temporary Internet files, user names, passwords, and other data for your convenience. When you visit the sites again in the future, this information is already available to your browser so you don’t have to reenter data. It’s also meant to personalize the visit by remembering your information. However, the information can pose a security risk, especially if you share your computer with others, whether at home or work, or if you use a shared computer at the library, for example. **InPrivate Browsing** helps prevent personal information and browsing history from being stored by Internet Explorer 9. When you use InPrivate Browsing, a new tab appears in which you browse the Internet (see Figure 3-10). When you’re finished and close the browser window, the session ends and any cookies or temporary files that were used during the session are cleared from your browsing history. A network administrator, however, can view Internet traffic that’s generated with InPrivate Browsing.

Figure 3-8
The Privacy tab



TAKE NOTE *

Some Web sites store a lot of information about your browsing sessions in cookies. For example, if you visit a shopping site, one or more cookies on your PC might include information about specific items you viewed or purchased. Advertising networks use cookies to “follow” you on the Web and display targeted advertising. After visiting a social networking site like Facebook, for example, a cookie might contain information related to what you typed on a friend’s wall. If, for example, you mentioned you bought a great pair of Nike running shoes, the right side of your Facebook page might display an ad from a sporting goods retailer that sells Nike running shoes or you might even see an ad from Nike.com.

Tracking Protection helps you control which Web sites can track your online browsing activity and receive that information. This is accomplished with a Tracking Protection list. You can create your own Tracking Protection lists or download lists from the Internet Explorer Gallery Tracking Protection Lists Web site at <http://iegallery.com/en/trackingprotectionlists/>.

ActiveX Filtering blocks ActiveX controls, which are created for interactivity on the Web and commonly used on sites that display animations or offer multimedia such as videos. ActiveX is meant to enhance the user experience on the Web, but it can slow your computer. In addition, some attackers use ActiveX to push harmful content to unsuspecting users. ActiveX Filtering allows you to block ActiveX completely, or to trust certain sites and block all others.

Figure 3-9
The Delete Browsing History dialog box

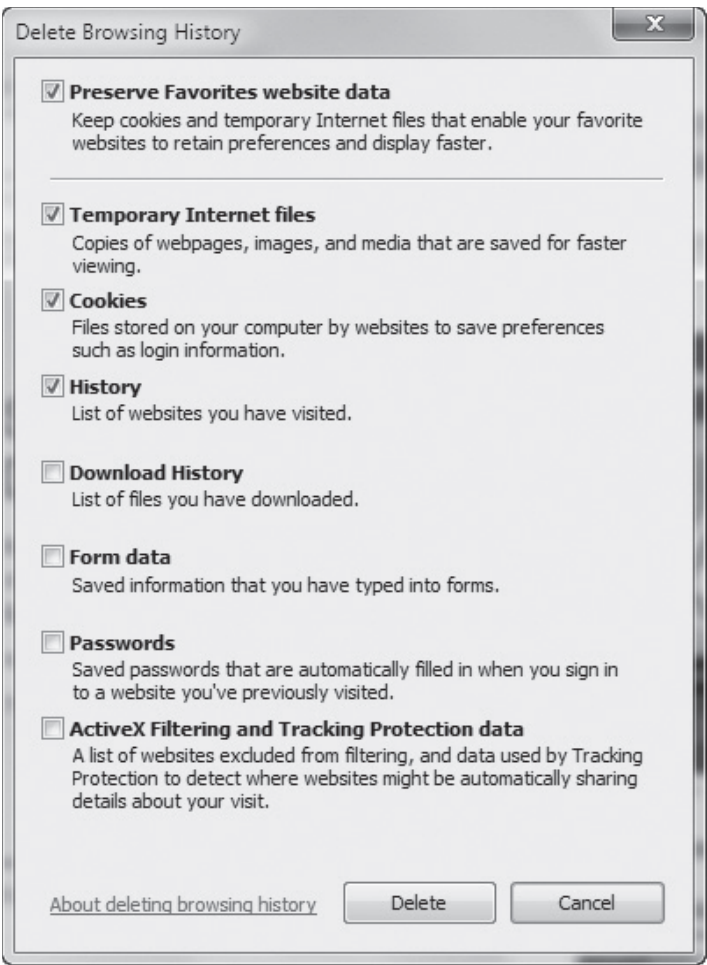
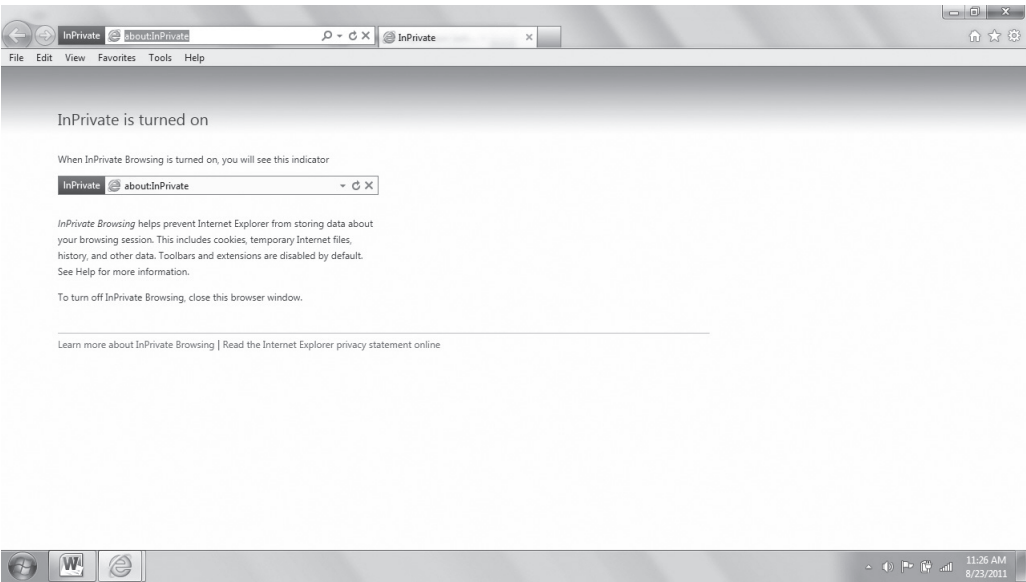


Figure 3-10
InPrivate Browsing runs in a new browser session



Other important security features include:

- **SmartScreen Filter:** The *SmartScreen Filter* detects threats on Web sites, such as phishing attacks and malware downloads, and prevents them from running. When Internet Explorer 9 detects a malicious Web site, it blocks the entire site from being

accessed. It can also block malicious portions of legitimate Web sites, allowing the rest of the site to display as normal. SmartScreen Filter is enabled by default.

- **Cross-site scripting (XSS) filter:** A *cross-site scripting attack* occurs when you visit a compromised Web site that runs a script that installs a keylogger program on your computer. The installation occurs without your knowledge. After that, the keylogger records your keystrokes, including when you enter user names and passwords into other sites. The information is usually sent to a third party, who may access your accounts. The *cross-site scripting (XSS) filter* prevents the keylogger script from running.
- **Domain highlighting:** Some Web sites use deceptive Web addresses, making you think you're visiting a legitimate site when you're actually on a phishing site or another dangerous site. *Domain highlighting* shows you the true Web address of any Web site you visit by highlighting the domain in the Address bar.

Many Internet Explorer 9 security features are available in various forms in third-party Internet security suites.

MORE INFORMATION

To learn more about ActiveX filtering, visit <http://windows.microsoft.com/en-US/internet-explorer/products/ie-9/features/activex-filtering>. Information on the cross-site scripting filter is available at <http://windows.microsoft.com/en-US/internet-explorer/products/ie-9/features/cross-site-scripting-filter>. Need extra help understanding InPrivate Browsing? Go to <http://windows.microsoft.com/en-US/internet-explorer/products/ie-9/features/in-private>. Finally, you can learn more about SmartScreen Filter at <http://windows.microsoft.com/en-US/internet-explorer/products/ie-9/features/smartscreen-filter>



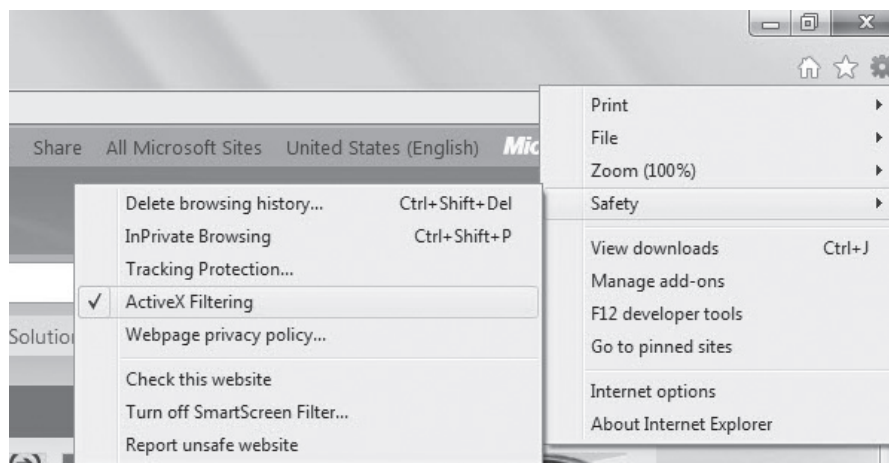
USE AND CONFIGURE INTERNET EXPLORER 9 SECURITY FEATURES

GET READY. To configure security features in Internet Explorer 9, perform the following steps:

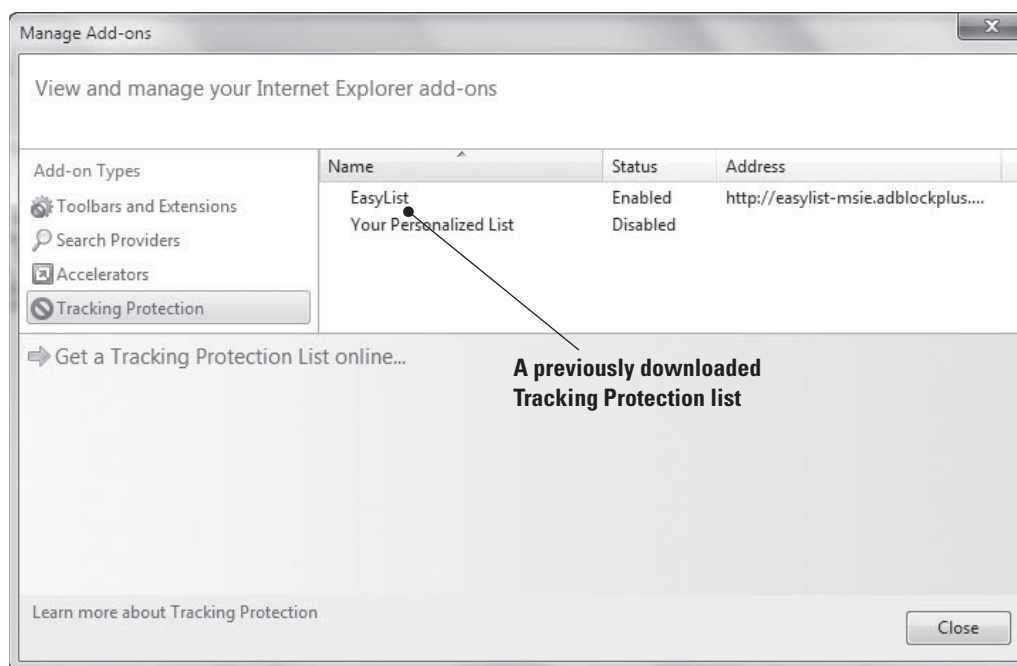
1. Launch Internet Explorer 9.
2. To access Pop-up Blocker settings, click the **Tools** icon in the upper-right corner of the Internet Explorer 9 window, and then click **Internet options**.
3. In the Internet Options dialog box, click the **Privacy** tab, and then click the Pop-up Blocker **Settings** button. To allow pop-ups from a particular trusted Web site, such as your bank, type the URL in the **Address of website to allow** text box and then click **Add**.
4. Click **Close** to close the dialog box.
5. To enable ActiveX Filtering, click the **Tools** icon in Internet Explorer 9, point to **Safety**, and then click **ActiveX Filtering**. A check mark appears next to ActiveX Filtering to indicate the feature is enabled (see Figure 3-11).
6. To use Tracking Protection, click the **Tools** icon, point to **Safety**, and then click **Tracking protection**. In the Manage Add-ons dialog box (see Figure 3-12), click a Tracking Protection list (if available), and then click **Enable**.
7. To download a Tracking Protection list, click the **Get a Tracking Protection List online** link and then follow the prompts.
8. To use InPrivate Browsing, click the **Tools** menu, point to **Safety**, and then click **InPrivate Browsing**. A new browser session opens, which keeps your browsing actions private.
9. When you're finished, just close Internet Explorer to end the InPrivate Browsing session.

Figure 3-11

ActiveX Filtering is enabled

**Figure 3-12**

The Manage Add-ons dialog box



Some security features, such as Tracking Protection, might require you to close Internet Explorer 9 and then reopen it to see the features in action.

■ Introducing Accessory Programs



THE BOTTOM LINE

Microsoft provides a wealth of free programs and utilities in Windows to help you be more productive, creative, and efficient. The Accessories folder in the All Programs list is your starting point for lots of handy tools.

Windows 7 comes bundled with many useful accessory programs, such as Calculator, Notepad, Paint, Snipping Tool, Windows Media Player, WordPad, and many more. The programs allow you to be productive in Windows without purchasing third-party programs.

To access these programs, click Start > All Programs > Accessories. Table 3-1 lists the programs in the Windows 7 Accessories folder. Not all programs are available in every edition of Windows 7.

Table 3-1

Windows 7 Accessory
Programs

PROGRAM	DESCRIPTION
Calculator	Performs basic mathematical functions such as addition, subtraction, multiplication, division. Also includes scientific, programmer, and statistics functions, along with unit conversions, date calculations, and worksheets to determine mortgage payments, vehicle lease payments, and fuel economy.
Command Prompt	Opens a window in which you run MS-DOS and other computer commands.
Connect to a Projector Connect to a Network Projector	Allows you to expand your screen to use another monitor or external projector.
Math Input Panel	Allows you to write and correct free-hand math equations using your mouse or other pointing device.
Notepad	Serves as a simple text editor.
Paint	Allows you to perform basic image editing.
Remote Desktop Connection	Connects two computers over a network or the Internet, allowing one computer to see and use the other computer's desktop. Remote Desktop Connection is covered later in this lesson.
Run	Allows you to run commands from the Start menu. Some commands require elevated or administrative privileges; to run these commands, use the <i>Run as administrator</i> command.
Snipping Tool	Allows you to capture, annotate, and save screen shots. Snipping Tool is covered later in this lesson.
Sound Recorder	Allows you to record sound from different audio devices, such as a microphone that's plugged into the sound card on your computer.
Sticky Notes	Allows you to keep notes on the desktop to help you remember important items. Available in different colors.
Sync Center	Allows you to sync any folder in your computer with a folder on an external drive connected to your computers or a network drive. Sync Center is covered later in this lesson.
Windows Explorer	Allows you to access files and folders on your computer, copy and move items, search for items, and more. This graphical file management system is built into many versions of Windows.
Windows Mobility Center	Allows you to control many different computer settings, such as screen brightness, volume, power/battery, WiFi, Bluetooth, sound, and so on. Windows Mobility Center is covered later in this lesson.
WordPad	Serves as a word processor, with many more features than Notepad.
Ease of Access	Allows you to open the Ease of Access Center to configure accessibility options, and gives you access to the speech recognition feature. See Lesson 2.

(continued)

Table 3-1

Continued

PROGRAM	DESCRIPTION
System Tools	Gives you access to Control Panel, Disk Cleanup, Disk Defragmenter, Resource Monitor, System Restore, and much more.
Tablet PC	Gives you access to tools to use a tablet PC's input device.
Windows PowerShell	Opens a command window useful for IT professionals. Windows PowerShell is covered later in this lesson.

TAKE NOTE *

This lesson covers Snipping Tool, Sync Center, Windows Mobility Center, and Windows PowerShell in detail because they're listed as measureable skills for the 98-349 exam.

■ Using the Snipping Tool

↓
THE BOTTOM LINE

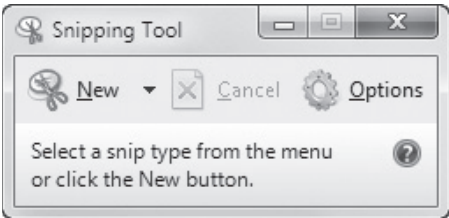
Home and business users alike need to capture screen shots occasionally for many different reasons. Windows 7 includes the Snipping Tool, an easy-to-use screen capture program with a few editing features.

A *screen shot*, also referred to as a snip or screen grab, is a snapshot of whatever is displayed on the computer screen. You might take a screen shot of an error message to help troubleshoot a computer problem, you might capture screen shots of a process in a program to create a how-to guide, or you might capture a screen shot to save as an image to use in a report or other document.

CERTIFICATION READY
What is the Snipping Tool used for?
1.3

The *Snipping Tool* (see Figure 3-13) is an accessory program that comes with Windows 7 that allows you to take screen shots, annotate them, and save them. When using Snipping Tool, you can capture the entire screen, a window, a rectangular portion of the screen, or a free-form image. The free-form capture allows you to use your mouse pointer or other pointing device to draw around a non-rectangular object on the screen.

Figure 3-13
The Snipping Tool window



You can save images in GIF, JPG, PNG, or HTML format, then use Snipping Tool to add freehand annotations, highlight or erase part of the image, or send it to a recipient via e-mail. If you select the HTML format, Snipping Tool saves the screen shot as a Web archive file in MHT format, which you can open in a Web browser such as Internet Explorer.

TAKE NOTE *

The Snipping Tool is available in Windows 7 Home Premium, Professional, Ultimate, and Enterprise editions.



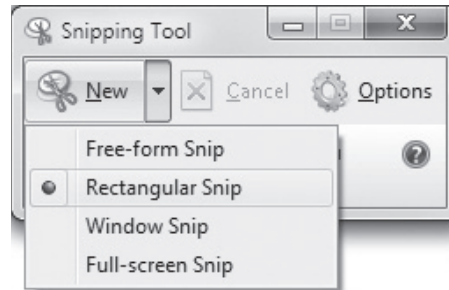
USE THE SNIPPING TOOL TO CAPTURE A SCREEN SHOT

GET READY. To capture a screen shot with the Snipping Tool and save it as a graphics file, perform the following steps:

1. Open or display a file, program, window, Web page, or anything that contains an object or picture you want to capture in a screen shot.
2. Click **Start > All Programs > Accessories > Snipping Tool**.
3. Click the **New** drop-down menu and choose **Free-form Snip**, **Rectangular Snip**, **Window Snip**, or **Full-screen Snip** (see Figure 3-14). The default is Rectangular Snip, which is used in this example.

Figure 3-14

Selecting the type of screen shot to capture



4. A white overlay appears on your screen. Click and drag the mouse pointer over the area you want to capture (see Figure 3-15). An editing window appears, displaying the captured image.

TAKE NOTE *

You can turn off the Snipping Tool overlay. Just click **Options**, uncheck the **Show screen overlay when Snipping Tool is active** check box, and click **OK**.

Figure 3-15

The captured image



5. To save the image, click the **Save Snip** icon on the toolbar, which looks like a floppy diskette.
6. In the Save As dialog box, navigate to the location where you want to save the screen shot. In the **File name** text box, type a descriptive name for the file.
7. Click the Save as type drop-down menu and select **GIF**, **JPG**, or **PNG**.

TAKE NOTE *

GIF files support 256 colors and are used primarily for Web sites. JPG is the most common picture file format, and it supports over 16 million colors. PNG files are an improvement to the GIF format and support “lossless compression,” which means you can enlarge a PNG file to a certain extent without losing clarity and crispness.

8. Click **Save**. The screen capture is saved as a graphics file.



USE THE SNIPPING TOOL TO ANNOTATE AN IMAGE

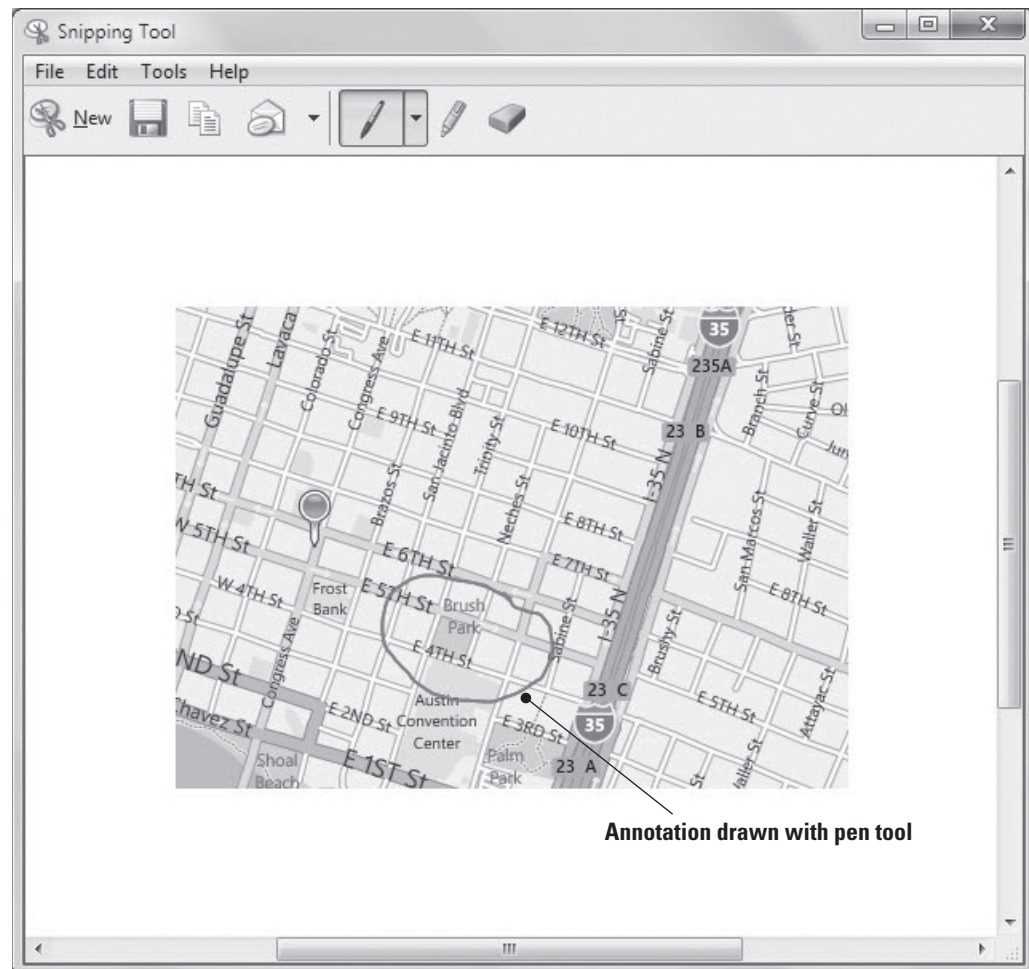
GET READY. To annotate an image using the Snipping Tool, perform the following steps:



1. In the Snipping Tool editing window, click the down arrow to the right of the pen button on the toolbar. Select a pen color from the list.
2. Write or draw on the image (see Figure 3-16).

Figure 3-16

Annotating an image



3. Click the **Save Snip** icon to save the annotated image under the current file name or a new file name.

Remember, you can open an image saved with Snipping Tool in any graphics program (including Paint) to make detailed edits.

+ MORE INFORMATION

For more information about the Snipping Tool, visit <http://windows.microsoft.com/en-US/windows7/products/features/snipping-tool>

■ Playing Back and Recording to Media



THE BOTTOM LINE

Windows Media Player and Windows Media Center provide a wealth of media playback, ripping, and recording options. No longer relegated only to home use, both programs can be used in the work place for highly appealing presentations, training, and lobby entertainment.

Digital media is popular for both home and business users of Windows 7. Although many media software packages are available on the market, you should check out the latest versions of Windows Media Player and Windows Media Center to see if third-party tools are even needed. Both programs come bundled with most Windows 7, so home and business users have access to these full-featured programs without spending additional money.

Using Windows Media Player

If you need to simply play back almost any type of multimedia file, Windows Media Player should be the program you use. It's built into Windows 7 (so it's free), and its media burning and ripping features, along with the ability to stream multimedia to other networked computers, makes it a great choice at home and work.

CERTIFICATION READY

What is the name of the main window in Windows Media Player?
1.3

TAKE NOTE *

Windows Media Player 12 supports the 3GP, AAC, AVCHD, MPEG-4, WMV, and WMA audio and video formats. It also supports most AVI, DivX, MOV, and Xvid files.

Windows Media Player 12 is a program that allows you to play back music and video files and view photos. Files stored in your Music, Pictures, Videos, and Recorded TV libraries appear in the Windows Media Player file list by default. If you're connected to a network, you can stream digital media files—audio, video, or photos—for playback or viewing from another computer or a server that hosts Windows media files. The main window in Windows Media Player is called the Player Library (see Figure 3-17).

Whether playing digital files on your computer, or from a CD or DVD, Windows Media Player includes common playback controls, such as Play, Shuffle, Repeat, Stop, Next, Previous, and a volume slider. You can switch to a smaller window, referred to as Now Playing mode, by clicking the *Switch to Now Playing* button in the lower-right corner. The Now Playing mode window appears (see Figure 3-18). To return to your library, click the *Switch to Library* button.

With Windows Media Player, you can do the following as well:

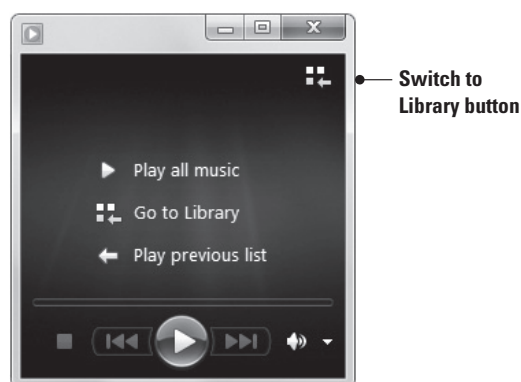
- **Create playlists:** Organize your music files into *playlists*, which are simply lists of music composed of songs from different albums, and may even be located on different areas of your computer or attached devices. Whatever appears in the library may be included in a playlist.

Figure 3-17

Windows Media Player main window—the Player Library

**Figure 3-18**

Windows Media Player Now Playing mode



- **Rip music from CDs to your computer:** Insert a CD and, when a list of its tracks appears in the Windows Media Player window, click the Rip CD button. Windows Media Player rips the tracks on the CD to your Music library.
- **Burn CDs:** If you have a recordable optical drive on your computer, you can use Windows Media Player to burn a collection of your favorite songs to a CD.
- **Create slide shows:** Use Windows Media Player to create slide shows with playback controls in just a few clicks.
- **Share media across a network:** You can use the *Play to* command to share multimedia files across a network with a homegroup (a personal network, usually set up at home) or across the Internet.

TAKE NOTE *

Microsoft has made Windows Media Player available in most editions of Windows 7: Starter, Home Premium, Professional, Ultimate, and Enterprise.

If you pin Windows Media Player 12 to the Windows 7 taskbar, you can take advantage of Jump Lists for previously accessed files. The Jump List also includes playback controls at the bottom of the Jump List window to play music, a video, or view photos without having to open Windows Media Player first.

+ MORE INFORMATION

For more information about Windows Media Player in Windows 7, visit <http://windows.microsoft.com/en-US/windows7/products/features/windows-media-player-12> and <http://windows.microsoft.com/en-US/windows7/Getting-started-with-Windows-Media-Player>



PLAY BACK MEDIA FILES

GET READY. To listen to music files, watch videos, or view photos in Windows Media Player, perform the steps in this section.

To listen to music files in Windows Media player, perform the following steps:

1. Open Windows Media Player by clicking **Start**, selecting **All Programs**, and then selecting **Windows Media Player** near the top of the programs list. You can also click its icon in the taskbar if it appears there.
2. Click the **Music** library in the navigation pane, click the file you want to hear in the file list, and click the **Play** button along the bottom of the window.
Another option is to click the **Play** tab in the upper-right corner of the Windows Media Player window, drag the songs you want to hear to the **Play** tab, and then click the **Play** button.
3. After the file has finished playing, Windows Media Player automatically plays the next file in the list.

To watch a video in Windows Media Player, perform the following steps:

1. Click the **Videos** library in the navigation pane, and then double-click the file you want to view in the file list. Windows Media Player launches a special viewing window and plays back the video.
2. Place your mouse pointer over the window to display playback controls (see Figure 3-19).

Figure 3-19

Playback controls appear in the video viewing window when you hover your mouse pointer over the window



Playback controls

To view photos in Windows Media Player, perform the following steps:

1. Click the **Pictures** library in the navigation pane. Thumbnails of the photos in your Pictures library appear.
2. To view all of the photos as a slide show, click the **Play** button. Windows starts the slide show in its own window (see Figure 3-20).

Figure 3-20

A slide show in Windows Media Player



Courtesy of Marion Post Wolcott, Farm Security Administration/Office of War Information

To stop any playback feature, click the Stop button in the playback controls, and then click Go To Library.



CREATE A PLAYLIST

GET READY. To create a playlist of music, perform the following steps:

1. In Windows Media Player, in the Player Library, click the **Create playlist** button on the toolbar.
2. Type a name for the new playlist that appears in the Navigation pane (see Figure 3-21).
3. Drag and drop songs from the file list to the new playlist in the Navigation pane.

An auto playlist gives you more control and options. To create an autoplaylist, click the down arrow on the *Create playlist* button, select *Create auto playlist*, and follow the prompts.



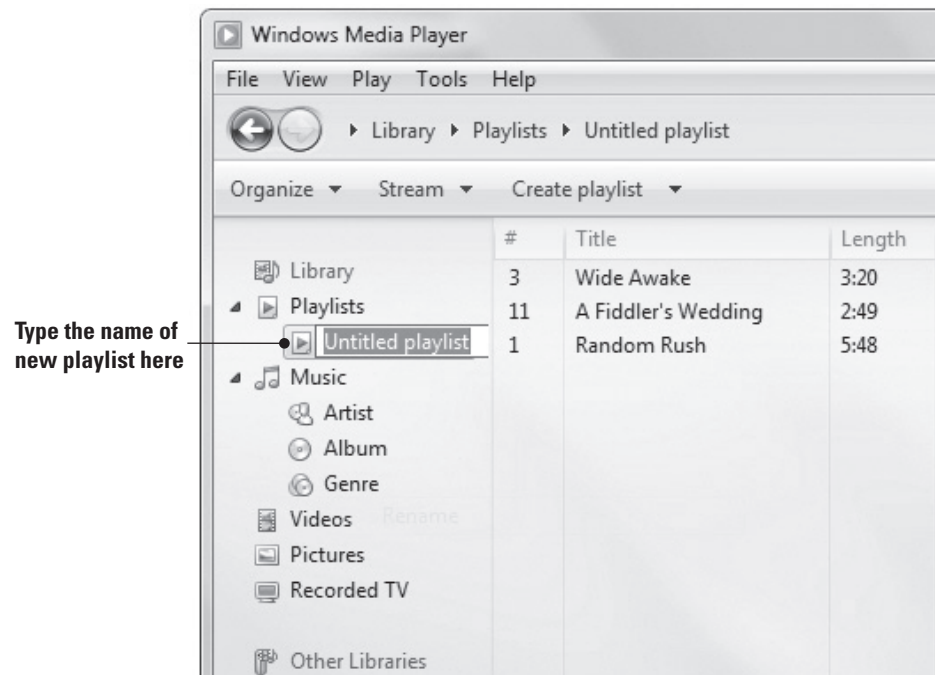
BURN A MUSIC CD

GET READY. To burn a music CD, perform the following steps:

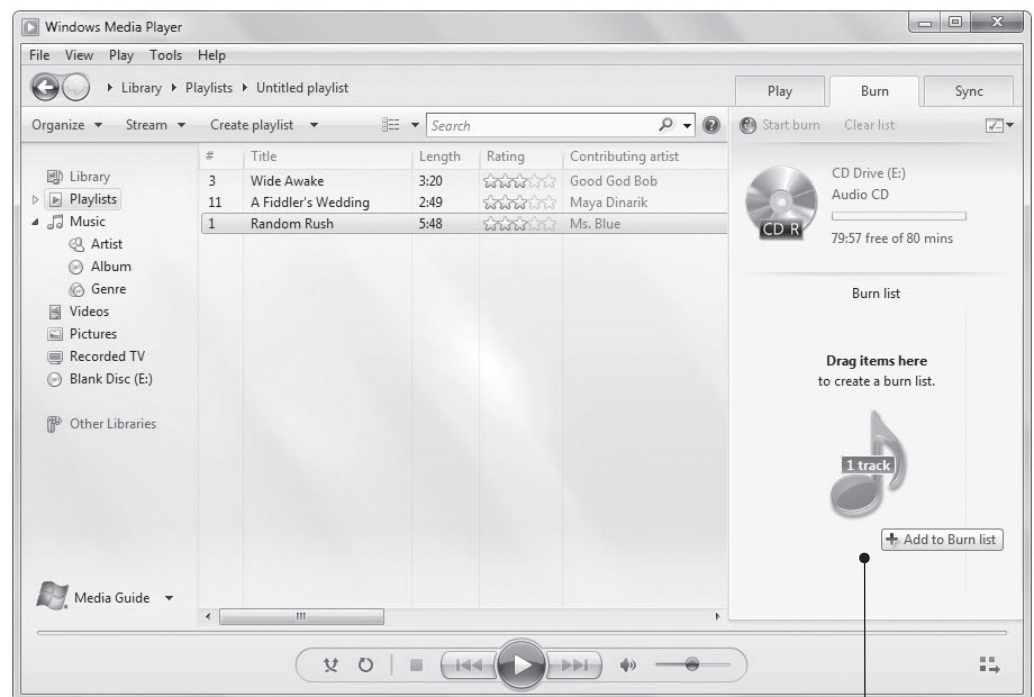
1. Insert a blank CD or DVD into your computer's recordable media drive.
2. In Windows Media Player, in the Player Library, click the **Music** library to display the file list.
3. Click the **Burn** tab.
4. Drag individual songs, playlists, or entire albums to the burn list on the right (see Figure 3-22).
5. Click **Start burn**.

Figure 3-21

Creating a playlist in Windows Media Player

**Figure 3-22**

Creating a list of files to burn to media



The CD ejects when the burning process completes. The burn process works similarly for other types of media files.



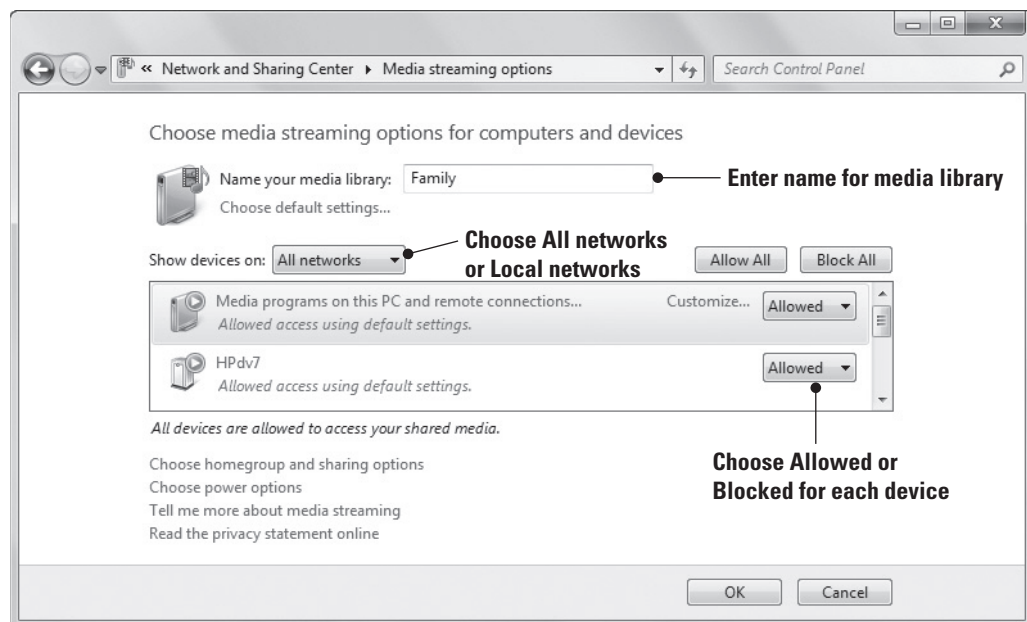
PREPARE YOUR COMPUTER TO STREAM MEDIA FILES

GET READY. To stream media from your home computer, perform the following steps:

1. Ensure your computer is connected to your local network and that you are connected to a homegroup. For information on homegroups, see Lesson 6.
2. In Windows Media Player, in the Player Library, click **Stream** on the menu bar and then select **Turn on media streaming with HomeGroup**.
3. On the Media streaming options page, click **Turn on media streaming**. If you're prompted for an administrator password or confirmation, type the password or provide confirmation and then click **OK**.
4. In the Network and Sharing Center window, click **Advanced sharing settings** (or click **Choose homegroup and sharing options**).
5. Click **Choose media streaming options**.
6. Type a name for your media library in the text box at the top (see Figure 3-23).

Figure 3-23

Configuring streaming media options



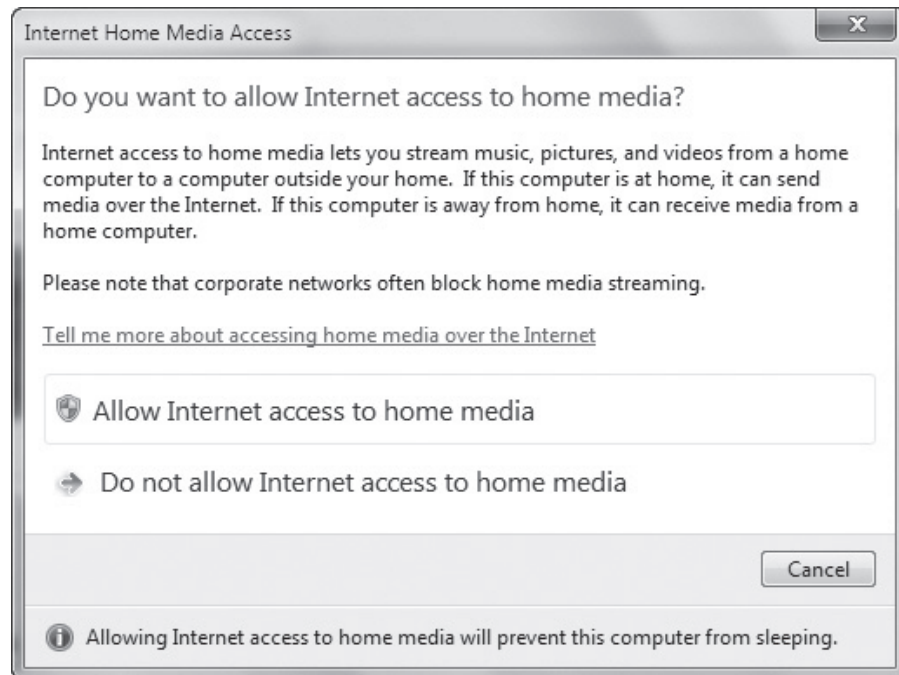
7. Choose to show devices on the local network or on all networks.
8. For each device, choose **Allowed** or **Blocked** to control whether others can see files on those devices.
9. Click **OK** and then close the Network and Sharing Center window.

To stream media files over the Internet, perform the following steps:

1. In Windows Media Player, in the Player Library, click **Stream** and then click **Allow Internet access to my home media**.
2. In the Internet Home Media Access dialog box, click **Link an online ID**.
3. Follow the prompts to link your user account with an online ID, such as your Windows Live ID. When you return to the Internet Home Media Access dialog box, click **Allow Internet access to my home media** again (see Figure 3-24). Click **Yes** in the dialog box that appears, and then click **OK**.

Figure 3-24

The Internet Home Media Access dialog box



The Play To feature in Windows Media Player allows you to select multimedia you would like to play on a connected device, such as a stereo system at home. Just select the media you want to stream in Windows Media Player, click the Play tab, click the *Play to* button near the upper-right corner of the window, and then select the device on your network that will play back the media. You can use the controls in the Play To dialog box to control playback volume and other settings.

Using Windows Media Center

Windows Media Center is a cut above Windows Media Player, incorporating many of the same types of features but with digital video recorder functionality and built-in access to online entertainment content.

Windows Media Center (see Figure 3-25) is a multi-faceted program that provides a complete entertainment system for your computer. Similar to Windows Media Player, you use Windows Media Center to play music, create playlists, watch videos, play recorded TV programs, and display pictures and slide shows. However, Media Center offers much more. For example, you can watch, pause, and record HDTV, watch live TV and online programming, and listen to radio stations.

Watching TV programming requires a TV tuner and a subscription to a cable service or a similar service. You don't need a digital video recorder (DVR)—your computer acts like a DVR, enabling you to record shows and even schedule shows in advance. If you don't have a TV tuner but do have Internet access, you can still use Internet TV in the latest version of Windows Media Center. Internet TV is a service that allows you to watch some TV shows, movies, and clips streamed from the Internet.

Windows Media Center supports the same audio and video formats as Windows Media Player: 3GP, AAC, AVCHD, MPEG-4, WMV, and WMA, and most AVI, DivX, MOV, and Xvid files.

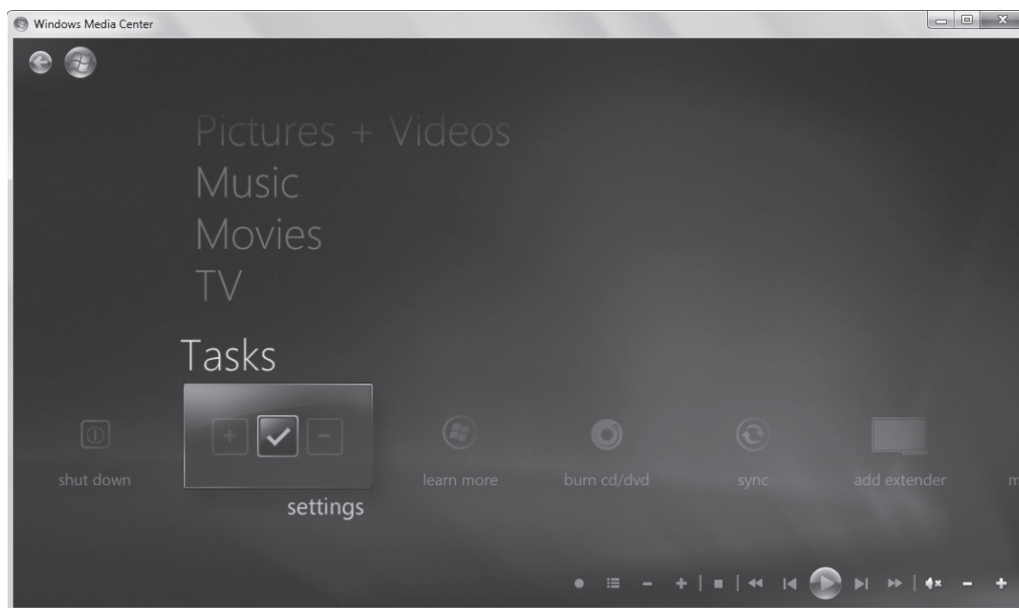
CERTIFICATION READY

What Windows 7 program is used to play recorded TV programs?

1.3

Figure 3-25

The Windows Media Center main window



You can also share media over a network from Windows Media Center with the use of a Windows Media Center Extender. You can buy an actual Extender device or use an Xbox 360 as an Extender. Each device you want to stream media to, such as an HDTV, needs an Extender. You can stream to up to five Extenders from a single computer running Windows 7.



PLAY BACK OR VIEW MULTIMEDIA

GET READY. To use Windows Media Center for multimedia playback and viewing, perform the following steps:

1. Click the **Start > All Programs > Windows Media Center**.
2. To view photos or videos, click **Pictures + Videos**, and then click **Picture Library** or **Video Library**. Just double-click any pictures or videos you want to view.
3. Click the green Windows Media Center button in the upper-left corner of the Windows Media Center to return to the main menu.
4. To listen to music, click **Music Library**. Select music you want to listen to, and then click **Add to now playing**.



Use the playback controls at the bottom of the window to stop, pause, play, rewind, and forward the multimedia file that's playing.



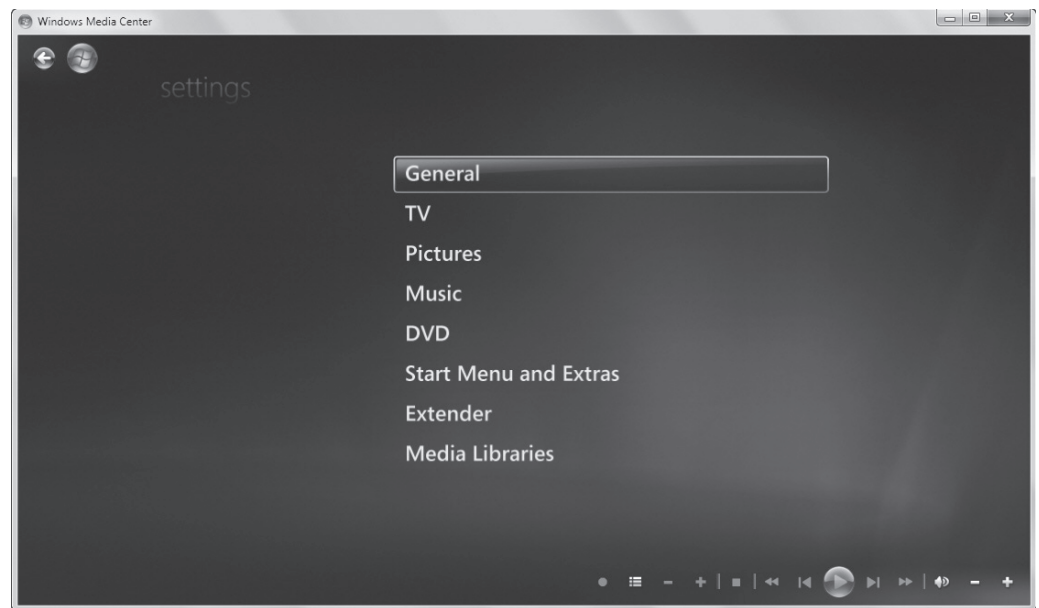
CONFIGURE SETTINGS

GET READY. To configure settings in Windows Media Center, perform the following steps:

1. In the Windows Media Center main window, hover your mouse pointer over the last menu item at the bottom. A down arrow displays. Scroll down to the Tasks menu and click **Settings**. The Settings window displays (see Figure 3-26).

Figure 3-26

The Windows Media Center Settings window

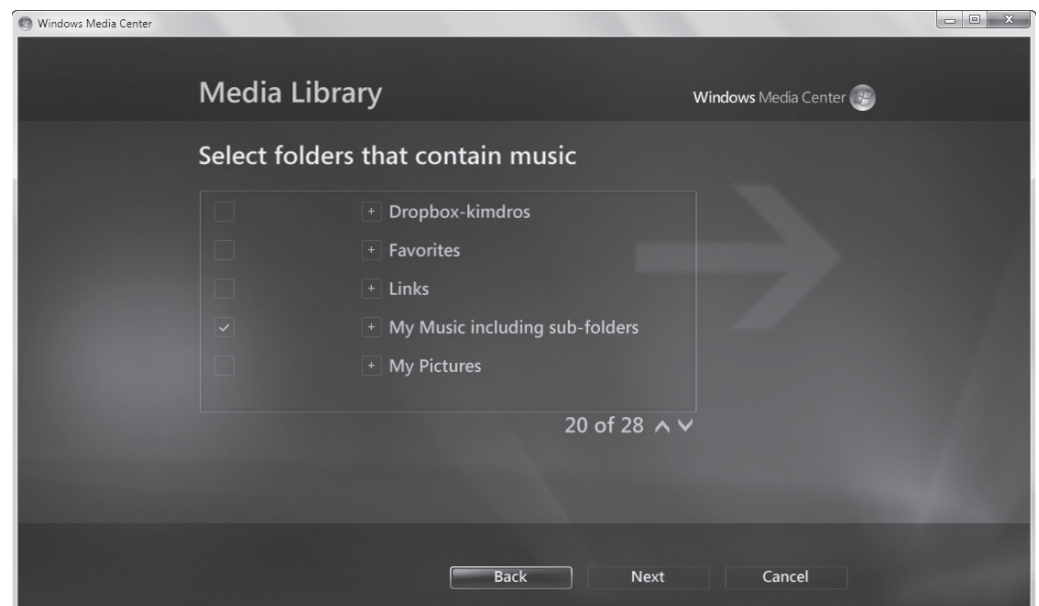


To add an Extender:

1. Click **Extender**, click **add extender**, and then follow the prompts.
To add libraries of content to Windows Media Center, return to the Settings window and then perform the following steps:
2. Return to the Settings window and click **Media Libraries**.
3. In the Media Library window, select the type of media you want to add (see Figure 3-27) and then click **Next**.
4. Click **Add folders to the library** and click **Next**.
5. Choose **On this computer** or **On another computer** and then click **Next**.
6. Select the folders to add to the library (see Figure 3-27) and then click **Next**.

Figure 3-27

Adding media to Windows Media Center



7. Select **Yes, use these locations** and then click **Finish**. Windows Media Center adds the content of the folders to your library.

There are many more settings to be familiar with in Windows Media Center. Take some time to browse all of the options in the Settings window.

MORE INFORMATION

To get details about Windows Media Center, visit <http://windows.microsoft.com/en-US/windows/products/windows-media-center>

■ Understanding Sync Center



THE BOTTOM LINE

If you need to frequently switch between network folders and the files on your laptop hard drive, use Sync Center to ensure that you always have the latest files.

CERTIFICATION READY

What Windows 7 feature allows you to sync files between your computer and mobile devices?

1.4

CERTIFICATION READY

What term best describes the type of files you can access without being connected to the resource from which you synchronized?

4.4

Sync Center (see Figure 3-28) is a feature in Windows 7 that allows you to sync files between your computer and a network location or with some mobile devices. Syncing allows you to keep two or more versions of the same file, stored on your computer and on a network folder, identical to the other. For example, if you add, delete, or modify a file in one location, the synchronization process ensures the files match each other.

After syncing is complete, you can access network files without being connected to the resource. These files are referred to as **offline files**. You can also use Sync Center to check the results of a recent sync to ensure the files were synced successfully, or to re-sync if errors occurred.

To get started with Sync Center, you must first set up a sync partnership with the network or external drive you want to use. Then, anytime you want to ensure your files are synced, right-click the network drive and select **Always available offline**. Once your files are done syncing, a symbol appears next to the network drive so you can see at a glance that the files are synchronized.

The Sync Center allows you to schedule synchronization, resolve errors that occurred during synchronization, change the amount of disk space allocated to offline files, and encrypt your offline files for security.

TAKE NOTE *

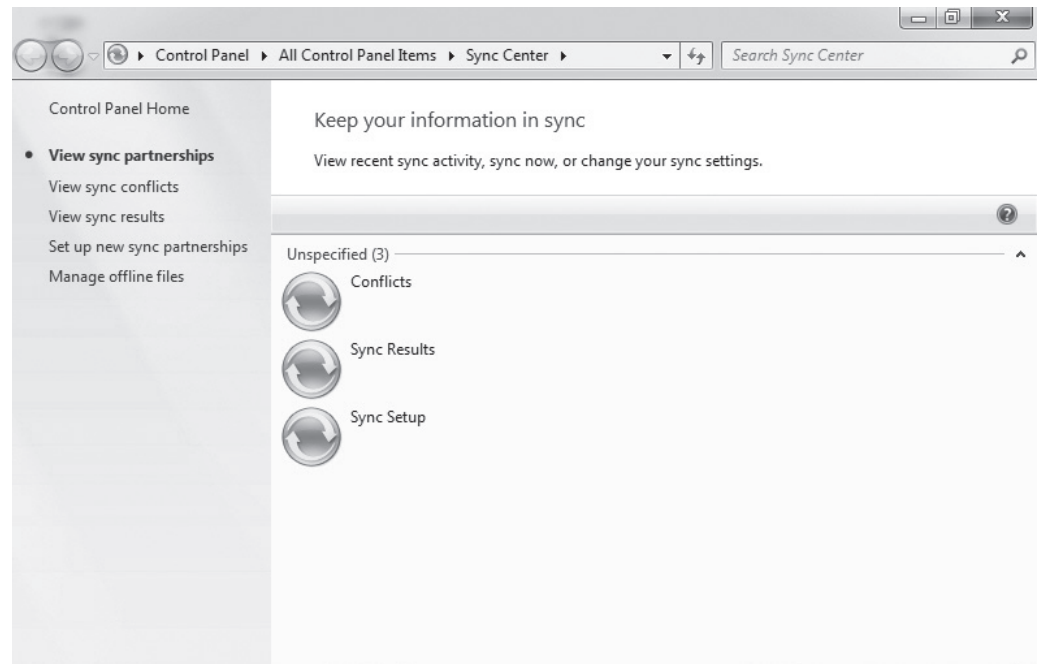
Although you can use Sync Center to sync a mobile device with your computer, Sync Center doesn't work with all devices. Instead, try Device Stage in Windows 7 or use the sync software provided by the mobile device manufacturer.

MORE INFORMATION

For more information about Sync Center, visit <http://windows.microsoft.com/en-US/windows7/What-is-Sync-Center>

Figure 3-28

The Sync Center main window

**SET UP A SYNCHRONIZATION PARTNERSHIP**

GET READY. To set up a synchronization partnership, perform the following steps:

1. Open Sync Center by clicking **Start > Control Panel > Sync Center**. (Alternately, click **Start**, and in the **Search programs and files** search box, type **sync**. In the results list that displays, select **Sync Center**.)
2. In Sync Center, in the left pane, click **Manage offline files**. The Offline Files dialog box displays (see Figure 3-29).

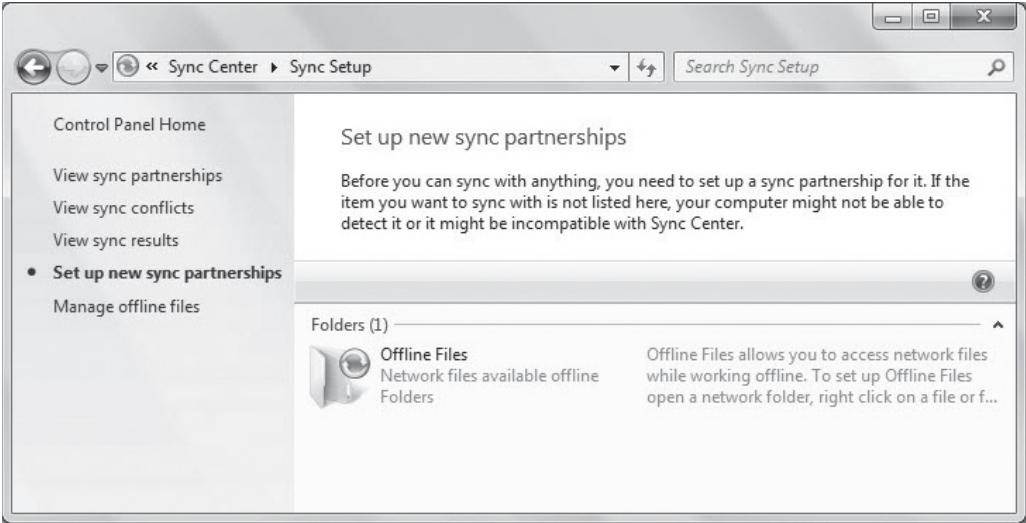
Figure 3-29

The Offline Files dialog box



- 3. Click **Enable offline files**, and then click **OK**. If you're prompted for an administrator password or confirmation, type the password or provide confirmation.
- 4. Close any open windows, shut down all programs, and then restart your computer.
- 5. Return to Sync Center and, in the left pane, click **Set up new sync partnerships**. The Sync Setup screen displays (see Figure 3-30).

Figure 3-30
The Sync Setup screen



- 6. Click the name of the drive in the list of available sync partnerships.
- 7. On the toolbar, click **Set up**.
- 8. Select the settings and schedule to determine how and when you want to sync your device with your computer.

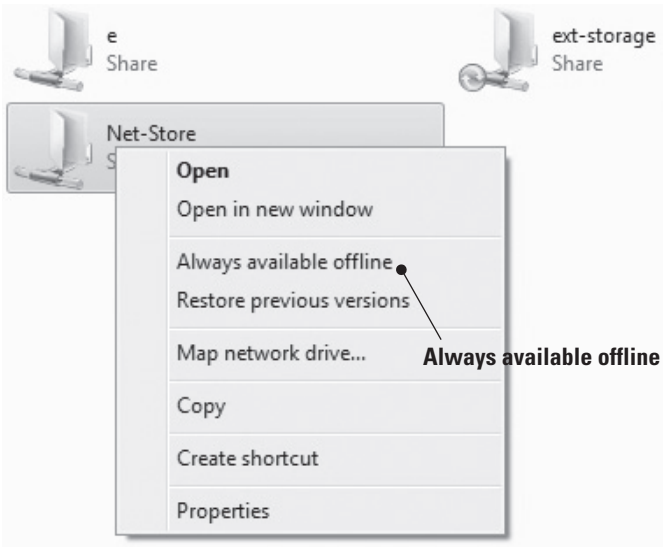


SYNCHRONIZE FILES

GET READY. To sync files on your computer with a network location, perform the following steps:

- 1. Click **Start > Computer**.
- 2. Browse to the drive or folder that contains the files you want to keep synchronized.
- 3. Right-click the name of the drive or folder, and then click **Always available offline** (see Figure 3-31).

Figure 3-31
Synchronizing files



Once the synchronization process is complete, a symbol displays next to the network drive or folder indicating that the files are synchronized.

■ Using Windows Mobility Center



THE BOTTOM LINE

Rather than using different tools to adjust your laptop's screen brightness, wireless settings, and more, just open the Windows Mobility Center, which displays groups of settings all in one interface.

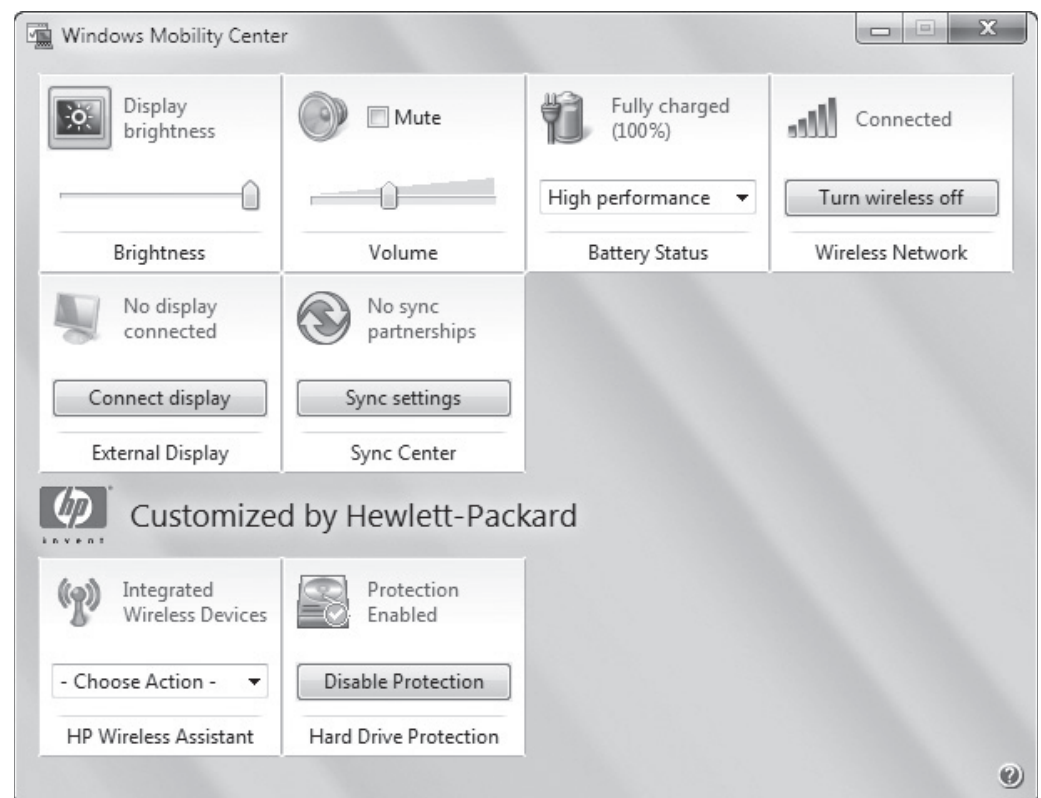
Windows Mobility Center is a control panel of sorts that gives you access to several laptop settings, from volume to screen brightness to power options to WiFi and Bluetooth settings—all in one place. Although the settings can be accessed from various icons and commands within Windows, you can make adjustments from a single window in Windows Mobility Center. Figure 3-32 shows the Windows Mobility Center window.

TAKE NOTE *

Windows Mobility Center is included on laptops running the Windows 7 Home Premium, Professional, Ultimate, and Enterprise editions. Presentation settings, however, are not available in Windows 7 Home Premium.

Figure 3-32

The Windows Mobility Center window



Windows Mobility Center displays settings in boxes, or tiles. The tiles that are displayed depend on your hardware and laptop manufacturer. In addition, a setting that is turned off or disabled might not display, or display with a red X, such as if you turn off your WiFi antenna by pressing the F key.

CERTIFICATION READY
Which settings can be
adjusted by using the
Mobility Center?
1.4

Table 3-2 describes common Windows Mobility Center settings. Not all settings are available on all laptops, so a few settings in the table are not displayed in Figure 3-32.

Table 3-2
Typical Window Mobility
Center Settings

SETTING	DESCRIPTION
Brightness	Allows you to adjust the brightness of your laptop display. Move the slider to the left to decrease brightness, and to the right to increase brightness. Display brightness is related to the power plan for your laptop; those settings are adjusted in the Battery Status tile.
Volume	Allows you to increase or decrease speaker volume, or check the Mute check box to temporarily disable audio.
Battery Status	Allows you to see how much battery charge remains and adjust the power plan for your laptop. Power plans vary but offer two at a minimum: one for running on battery power and another for running on AC power.
Wireless Network	Allows you to turn your wireless network adapter on or off and see the status of your wireless network connection.
Screen Rotation	For tablet PCs, this feature allows you to change the orientation of your screen (portrait or landscape).
External Display	Allows you to connect an external monitor to your laptop.
Sync Center	Allows you to access settings to sync files with a network location, or with a mobile device. Sync Center is covered in more detail in this lesson.
Presentation Settings	Provides you with access to settings for connecting your laptop to a projector for presentations.

+ MORE INFORMATION

For more information about settings in Windows Mobility Center, visit <http://windows.microsoft.com/en-US/windows7/products/features/windows-mobility-center>

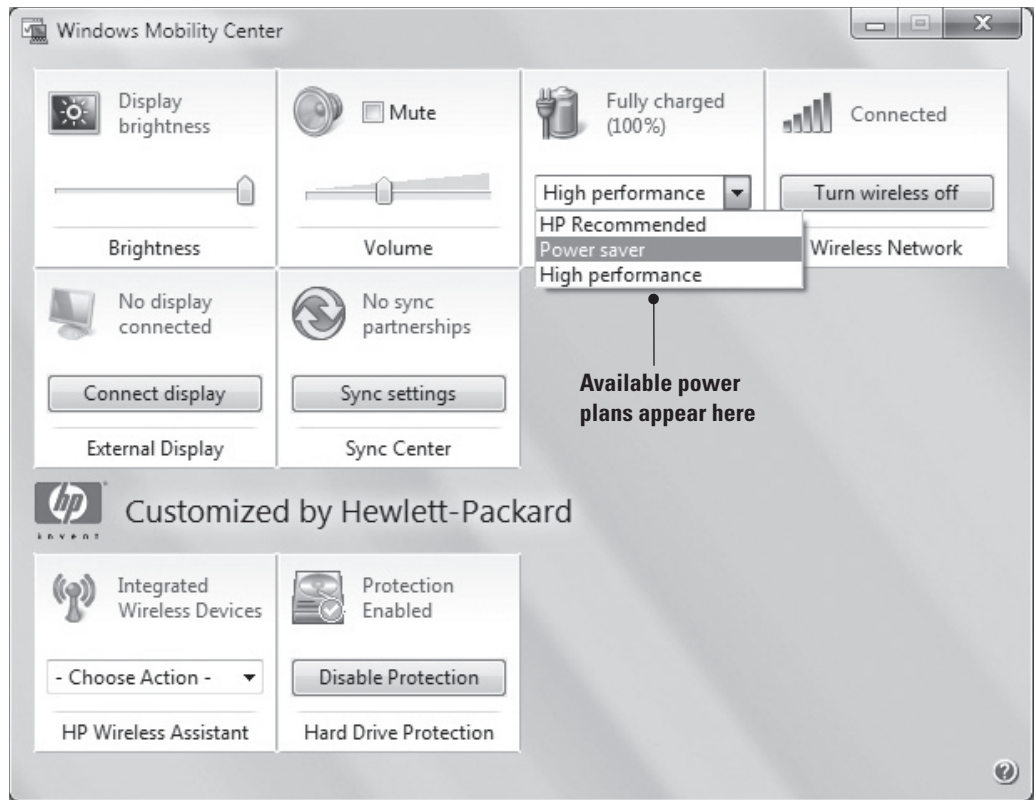


CHANGE MOBILITY CENTER SETTINGS

- GET READY.** To adjust settings in Windows Mobility Center, perform the following steps:
1. Open Windows Mobility Center by clicking the **Start** button, typing **mobility** in the **Search programs and files** search box, and then selecting **Windows Mobility Center** from the results list.
 2. Adjust the screen brightness by moving the **Brightness** slider left or right.
 3. Click the **Battery Status** drop-down list (see Figure 3-33) and then select another power plan, such as **Power saver**. Notice how the screen brightness changes again.
 4. Click the drop-down list again and select the original power plan.

Figure 3-33

Selecting a different power plan in the Battery Status drop-down list



Click the drop-down lists in other tiles of Windows Mobility Center to see which options are available.

■ Understanding Remote Desktop Services



THE BOTTOM LINE

Remote Desktop Services, formerly known as Terminal Services, enables computers to act like mainframe terminals. The processing required to run applications and even use the desktop is performed by the server rather than the client computer.

CERTIFICATION READY

What term best describes the Windows 7 technology that allows a computer to connect to a remote server and then run applications from that server?

2.4

TAKE NOTE *

The Remote Desktop Services server must run Windows Server 2008 R2, Windows Server 2008, Windows Server 2003, or Windows 2000 Server.

Windows 7 **Remote Desktop Services** is the technology that allows a computer (the client) to connect to a remote server (also called a host computer) and run applications from the server. Although the client computer may be running Windows 7, it doesn't run the actual application—the server handles all processing. This is the opposite of a typical Windows 7 computer with applications such as Microsoft Office installed on the hard disk. Remote Desktop Services can also provide a virtual user desktop for remote users. When a user accesses the server, the user is provided a virtual desktop interface that looks and responds similarly to the client computer's actual desktop.

A major benefit of Remote Desktop Services is that administrators can manage user desktops and applications from a central place—at the server—rather than at the physical client computer.

A few of the services provided by Remote Desktop Services include the following:

- **RemoteApp:** Enables a remote user to log on to a Remote Desktop Services server via a Web browser and run a single application.
- **Remote Desktop Web Access:** Enables a remote user to log on and run programs and virtual desktops. This feature lets users create a RemoteApp and Desktop Connection using the Start menu on a computer running Windows 7 or via a Web browser.

In a Remote Desktop Services environment, a network administrator must first set up resources for a remote user to connect to. This is referred to as “publishing the resources.” The administrator must also send the user a setup file or Web address. The user either runs the setup file or enters the Web address in a Web browser to make the connection to the server. Once a user accesses the remote server, the resources will be available in a folder on the user’s computer.



CONNECT TO A SERVER USING REMOTE DESKTOP WEB ACCESS

GET READY. To connect to a remote server using Remote Desktop Web Access in a Web browser, perform the following steps:

1. In a Web browser, type the Web address provided by the network administrator. The Web address is in the **https://computer name/rdweb** format or the **https://ipaddress/rdweb** format.
2. Type the **User Name** and **Password**, and then click **OK**.

When the user is finished with the session, she should log off and close the Web browser to ensure the connection is closed.

The client application for Remote Desktop Services is called Remote Desktop Connection, which is covered next.

CERTIFICATION READY

Which Windows 7 feature allows you to set up a computer for remote access and then connect to that computer regardless of where you might be located?

1.4

CERTIFICATION READY

What does Remote Desktop Connection allow you to do?

2.4

TAKE NOTE *

Remote Desktop comes with all editions of Windows 7; however, you can only connect to computers running the Professional, Ultimate, or Enterprise editions.

Understanding Remote Desktop Connection

Anyone who’s on the go often needs to access a computer at home or at work. Remote Desktop Connection allows you to set up a computer for remote access, and then connect to that computer wherever you may be. All you need is an Internet connection.

Windows 7 *Remote Desktop Connection* allows you to access another computer on a network or over the Internet, and use the computer as if you were sitting in front of it. This feature is handy for people who want to access files on their home computer while at work, for example. Remote Desktop Services is the technology that allows Remote Desktop Connection to work.

When setting up Remote Desktop Connection, you must allow remote connections to the computer you want to access remotely. The remote computer may run any of these operating systems:

- Windows XP Professional edition
- Windows Vista Business, Ultimate, or Enterprise edition
- Windows 7 Professional, Ultimate, or Enterprise edition

Setting up Remote Desktop Connection can take some effort if the remote computer is outside of your network. You might need to configure your firewall to allow Remote Desktop connections. You must also determine the IP address of the remote computer (such as the home computer you want to connect to), and configure the remote computer’s router to forward TCP port 3389 to the destination computer’s IP address.

TAKE NOTE *

Allowing remote connections between your computer and a remote computer outside your network presents a security risk. The session can be hijacked by a malicious user. Whenever possible, be sure both computers use strong encryption, complex passwords, and strong authentication to minimize the possibility of attack.

To learn how to set up a Remote Desktop connection with a computer outside of your network, visit the Allow Remote Desktop connections from outside your home network Web page at <http://windows.microsoft.com/en-US/windows7/allow-remote-desktop-connections-from-outside-your-home-network>.

+ MORE INFORMATION

For more information about how to use Remote Desktop Connection, visit <http://windows.microsoft.com/en-US/windows7/products/features/remote-desktop-connection>. You can learn about Remote Desktop Services at <http://windows.microsoft.com/en-US/windows7/What-is-Remote-Desktop-Services>



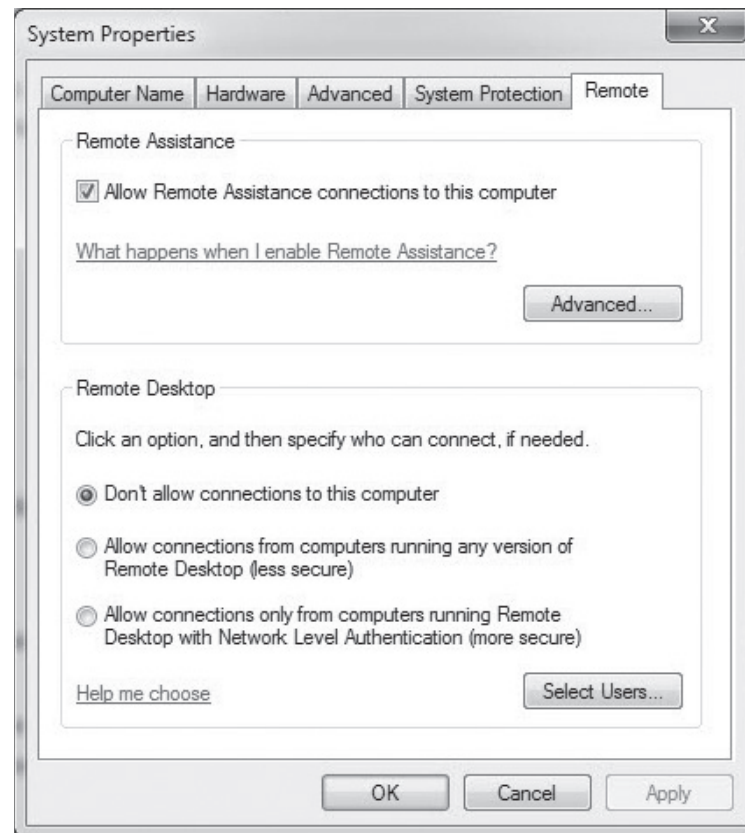
SET UP REMOTE DESKTOP CONNECTION

GET READY. To set up Remote Desktop Connection, perform the following steps:

1. Click **Start**, right-click **Computer**, and then click **Properties**. The System window displays.
2. In the left pane, click **Remote settings**. If you're prompted for an administrator password or confirmation, type the password or provide confirmation. The System dialog box displays with the Remote tab displayed (see Figure 3-34).

Figure 3-34

The Remote tab



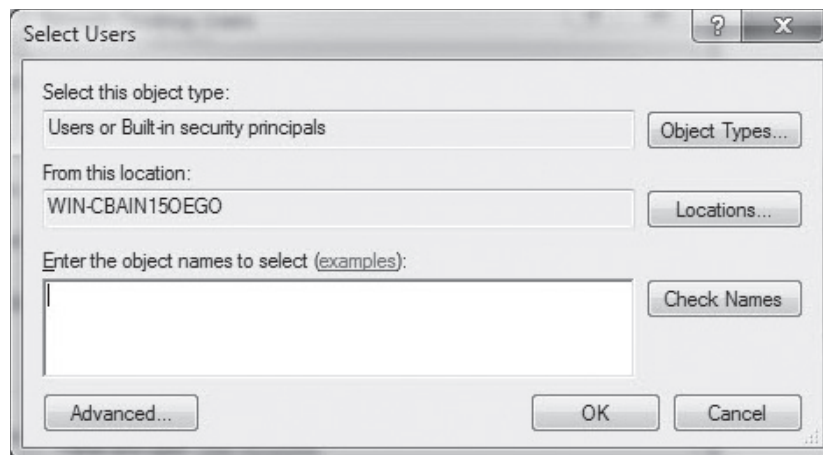
3. In the **Remote Desktop** section, select one of the options to allow connections:

- **Don't allow connections to this computer:** Selecting this option prevents anyone from connecting to your computer using Remote Desktop or RemoteApp.
- **Allow connections from computers running any version of Remote Desktop:** This option allows users running Windows XP, Windows Vista, or Windows 7 to connect to your computer using Remote Desktop or RemoteApp. If you aren't sure which operating system is running on the remote computer, use this option.

- **Select Allow connections only from computers running Remote Desktop with Network Level Authentication:** This option allows Windows 7 users to connect to your computer if they're running Remote Desktop or RemoteApp with Network Level Authentication. This option offers the most security.
4. Click **Select Users**.
 5. In the Remote Desktop Users dialog box, click **Add**. The Select Users dialog box displays (which might be named Select Users or Groups). See Figure 3-35.

Figure 3-35

The Select Users dialog box



6. Perform one of the following steps:
 - To find users, specify the types of user names (objects) you want to search for by clicking the **Object Types** button.
 - To specify the search location, click the **Locations** button.
 - In the Enter the object names to select box, type the user name that you want to search for, and then click **Check Names**. If the user name isn't found, click **Advanced** to run an advanced search.
7. When you find the user name you want to add, click **OK**. The name will be displayed in the list of users in the Remote Desktop Users dialog box.
8. Click **OK**, and then click **OK** again.

Once the remote computer is set up to accept connections, leave the computer running in order to connect to it at a later time.



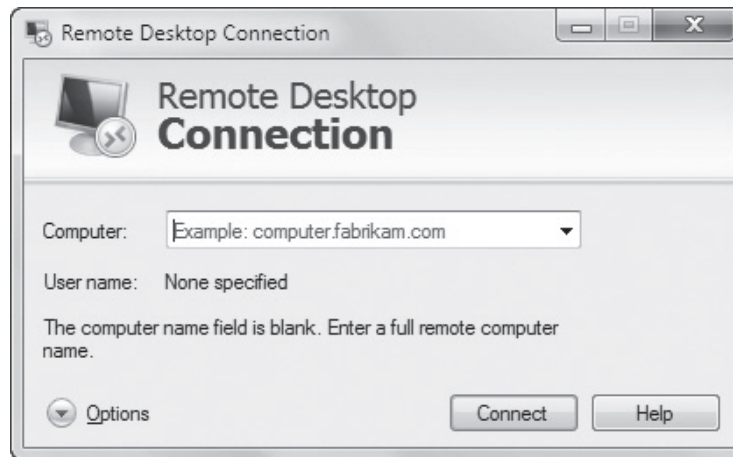
CONNECT TO A COMPUTER WITH REMOTE DESKTOP CONNECTION

GET READY. To connect to a remote computer, perform the following steps:

1. Click **Start** and in the **Search programs and files** search box, type **remote connect**. In the results list that displays, select **Remote Desktop Connection**. The Remote Desktop Connection window displays (see Figure 3-36).
2. In the **Computer** field, type the IP address or name of the remote computer if both computers are on the same private network. If the remote computer is on a different network, type the router's public IP address followed by a colon and the port number (for example, **XXX.XXX.XX.XXX:3389**). Replace the Xs with your actual public IP address.
3. Log on to the remote computer.

Figure 3-36

The Remote Desktop Connection window



Once you connect, you can access resources on the remote computer as if you were sitting in front of it.

+ MORE INFORMATION

For more information about Remote Desktop Connection, visit <http://windows.microsoft.com/en-US/windows7/products/features/remote-desktop-connection>

■ Understanding Remote Management and Assistance



THE BOTTOM LINE

When you're asked to help a friend or co-worker with a computer problem, being able to see the person's computer can make all the difference in resolving the problem. Windows Remote Assistance allows you to see the desktop of another user even though that user (and his computer) is located remotely. You can even take control of the remote computer if necessary.

Windows Remote Assistance is similar to Remote Desktop Connection, but the purpose of Remote Assistance is to allow one person to connect to another user's computer to provide "hands-on" help. For example, Albert is a traveling salesperson who is having trouble formatting a document in Microsoft Word. Maria, a technical support specialist at the main office, can set up a Remote Assistance connection with Albert's laptop, and then take control of his computer and show him how to fix the formatting issues.

Windows Remote Assistance sessions are encrypted for safety. They're also password protected, so only a person who is invited to the Remote Assistance session can connect to the computer.

To request remote help and initiate a Remote Assistance session, you send an invitation to the person who will be assisting you. That person accepts the invitation and connects to your computer.

+ MORE INFORMATION

For more information about Windows Remote Assistance, visit <http://windows.microsoft.com/en-US/windows7/What-is-Windows-Remote-Assistance>



SET UP A WINDOWS REMOTE ASSISTANCE SESSION

GET READY. To set up a Windows Remote Assistance session, perform the following steps:

1. Click **Start** and in the **Search programs and files** search box, type **remote assist**. In the results list that displays, select **Windows Remote Assistance**. The Windows Remote Assistance window displays.
2. Click **Invite someone you trust to help you**.

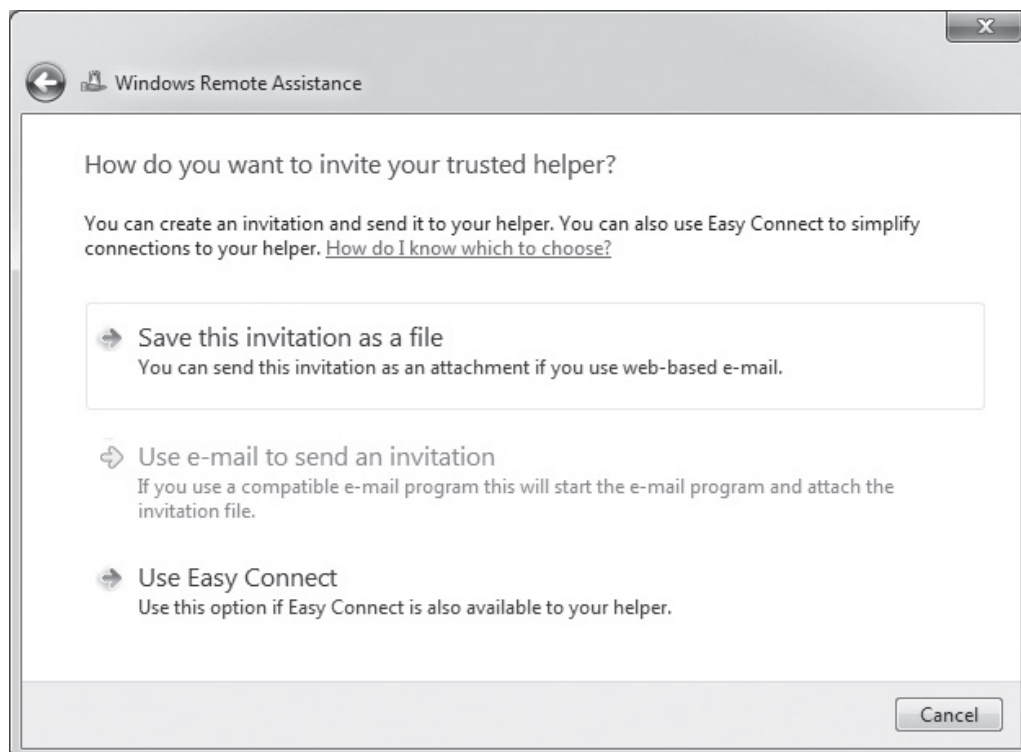
TAKE NOTE *

If an error message appears stating that your computer is not set up to send invitations, click Repair. The problem may be related to your firewall, which needs to be disabled temporarily. Start Windows Remote Assistance again after the problem is resolved.

3. In the screen that displays (see Figure 3-37), either create an invitation as a file and send it via e-mail automatically (if the option is available) or click **Save this invitation as a file**. If you chose to save the file, the file is named `Invitation.msrc`. Send it via e-mail to the support person.

Figure 3-37

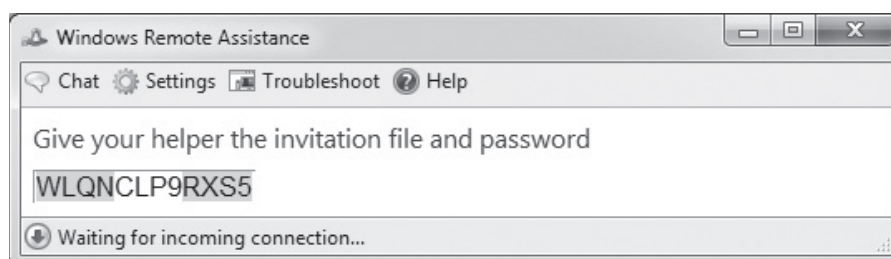
The Windows Remote Assistance window



4. A dialog box displays with a password (see Figure 3-38). Give this password to the support person over the phone.

Figure 3-38

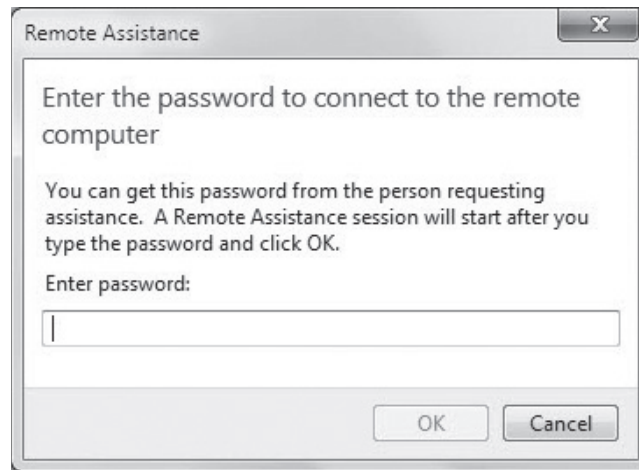
The Windows Remote Assistance password dialog box



5. Leave the session open and wait for the support person to connect to your computer.
6. The support person receives the invitation and opens it. A Remote Assistance dialog box displays, prompting for the password (see Figure 3-39).

Figure 3-39

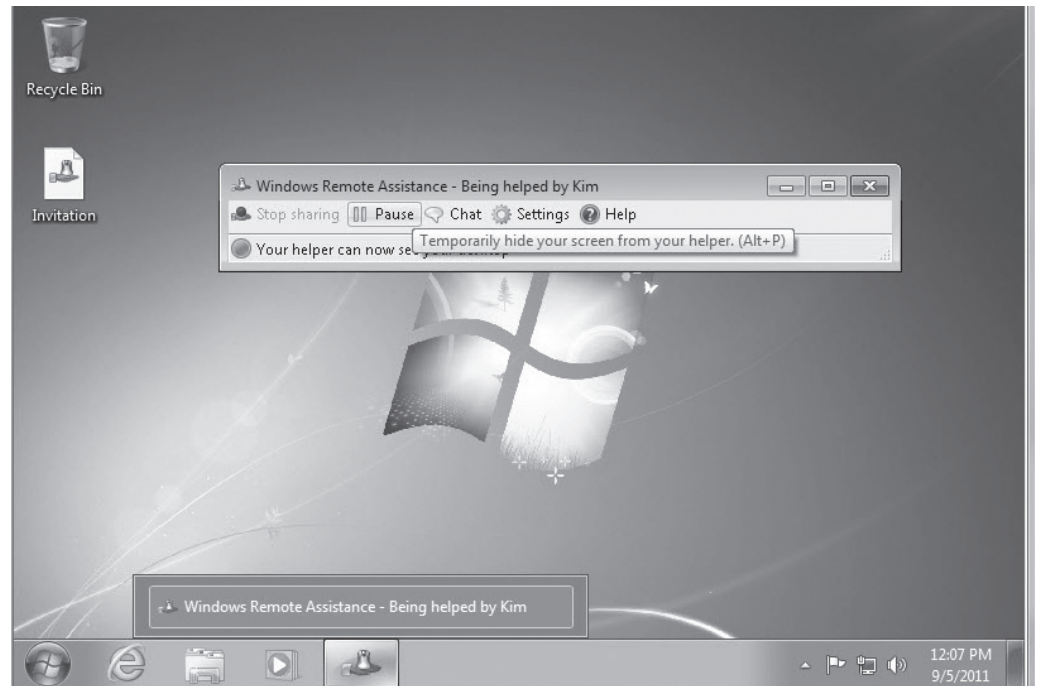
The Remote Assistance dialog box appears on the support person's desktop



7. After typing the password, Windows Remote Assistance attempts to connect to the client's computer.
8. The client must click **OK** in the dialog box that displays, asking if it is OK for the support person to connect.
9. The Windows Remote Assistance window displays on both the client's desktop (see Figure 3-40) and the support person's desktop.

Figure 3-40

The Windows Remote Assistance window on the client's computer



Any actions the client performs are displayed to the support person. The support person can click *Request control* to take control of the client's desktop through the Windows Remote Assistance window. For security purposes, a dialog box is displayed on the client's desktop, prompting for permission. At any time, either user can click *Stop sharing* to prevent the support person from controlling the client's desktop. While a Remote Assistance session is live, both the support person and the client can open a chat window to communicate rather than communicate using a telephone. To end the session, simply close the Windows Remote Assistance window.

Using the MMC

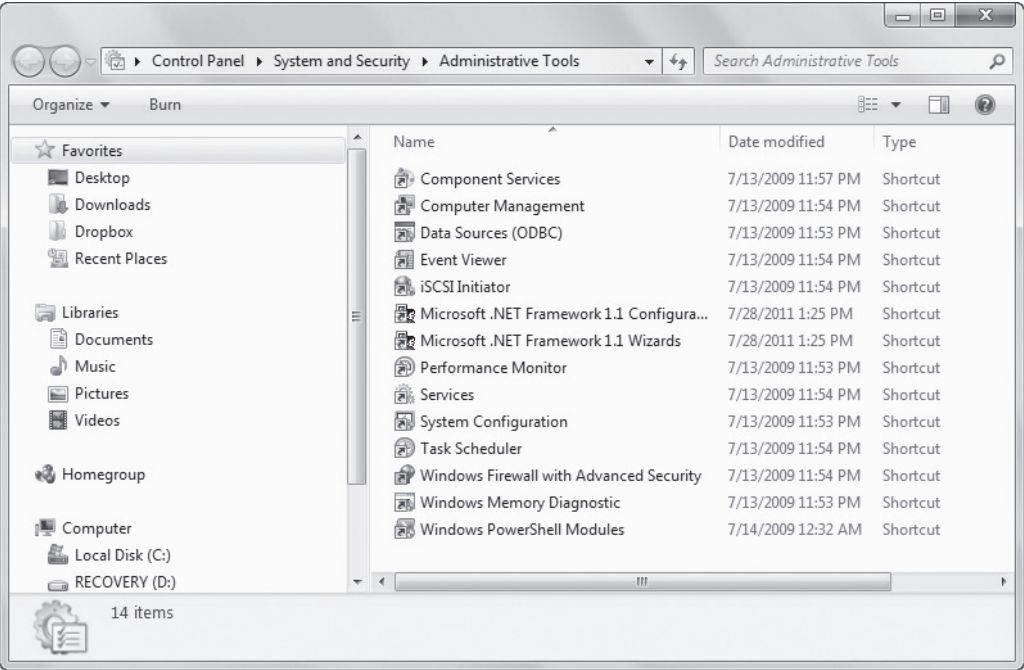
When assisting users with computer problems or maintaining systems, a support person often needs to check computer events, look at computer resource usage, or examine a disk's partition, among other tasks. You may use Microsoft Management Console (MMC) tools and utilities for this purpose.

Lesson 2 introduced the *Microsoft Management Console (MMC)*, a collection of administrative tools called *snap-ins*. An MMC snap-in is a utility provided by Microsoft or a third party that's accessible through a common interface. Administrators use MMC tools for managing hardware, software, and network components on a computer.

Administrative Tools is a popular collection of tools that use the MMC. You can access Administrative Tools by typing **admin tools** in the *Search programs and files* search box and selecting Administrative Tools from the results list. The Administrative Tools window (see Figure 3-41) lists several tools.

CERTIFICATION READY
What is an MMC snap-in?
1.5

Figure 3-41
The Administrative Tools window



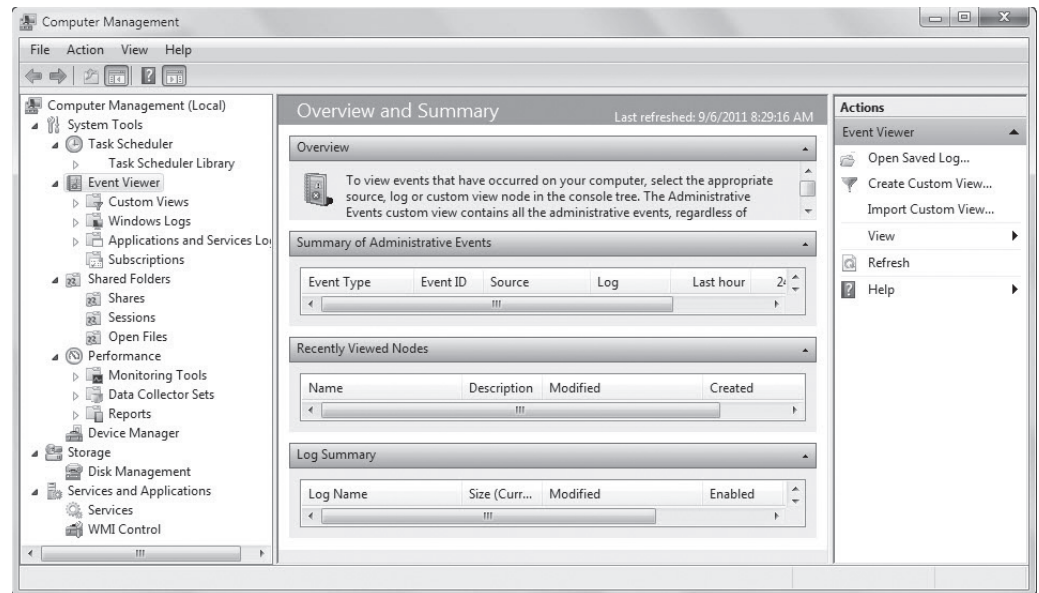
TAKE NOTE * To show Administrative Tools in the Start menu, right-click Start, click Properties, and then click Customize. Scroll down to the System administrative tools heading, select *Display on the All Programs menu*, and then click OK.

Computer Management is a popular snap-in that includes several tools such as Disk Management for configuring hard disks and their partitions and Event Viewer, which allows you to view computer event information such as program starting and stopping (including program crashes) and security problems. (See Figure 3-42.) You can manage system performance and resources using Performance Monitor, which is under Performance > Monitoring Tools.

Some administrators and power users create a custom MMC that includes only the tools they use regularly, creating a toolkit of sorts.

Figure 3-42

The Computer Management window



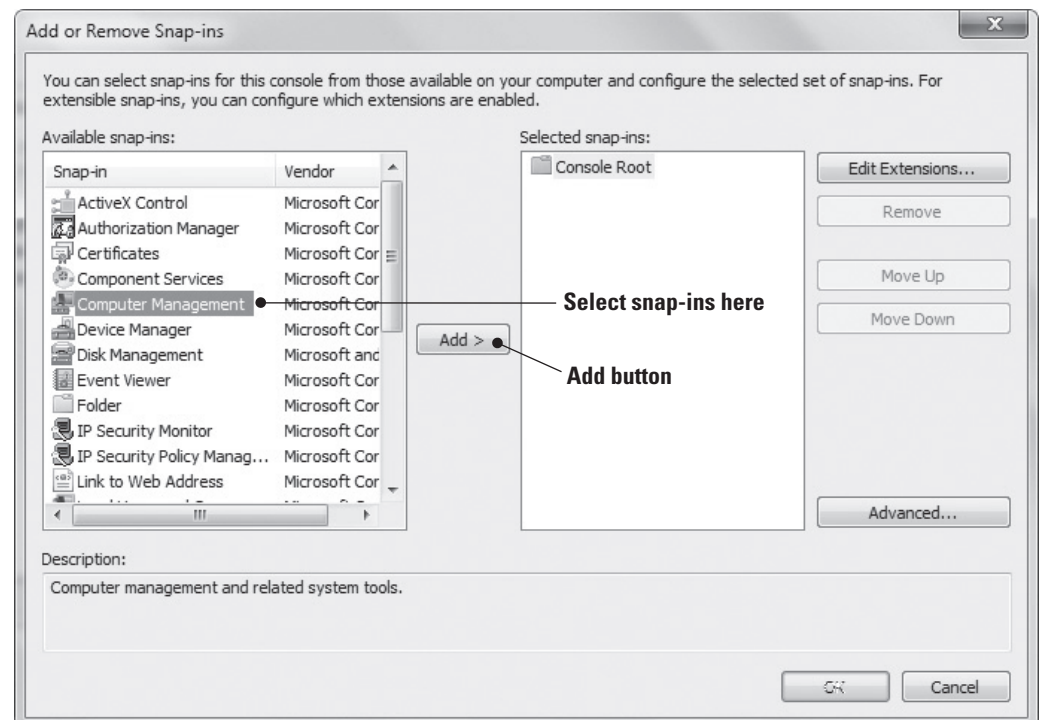
CREATE A CUSTOM MMC

GET READY. To create a custom MMC, perform the following steps:

1. Click **Start**, type **MMC** in the Start menu and in the **Search programs and files** search box, type **mmc**. In the results list that displays, select **mmc.exe**.
2. In the MMC Console window that displays, click **File > Add/Remove Snap-in**. The Add or Remove Snap-ins dialog box displays.
3. In the Available snap-ins on the left, select a snap-in of your choice, such as **Computer Management** (see Figure 3-43). In the middle of the dialog box, click the **Add** button.

Figure 3-43

Selecting snap-ins for a custom MMC

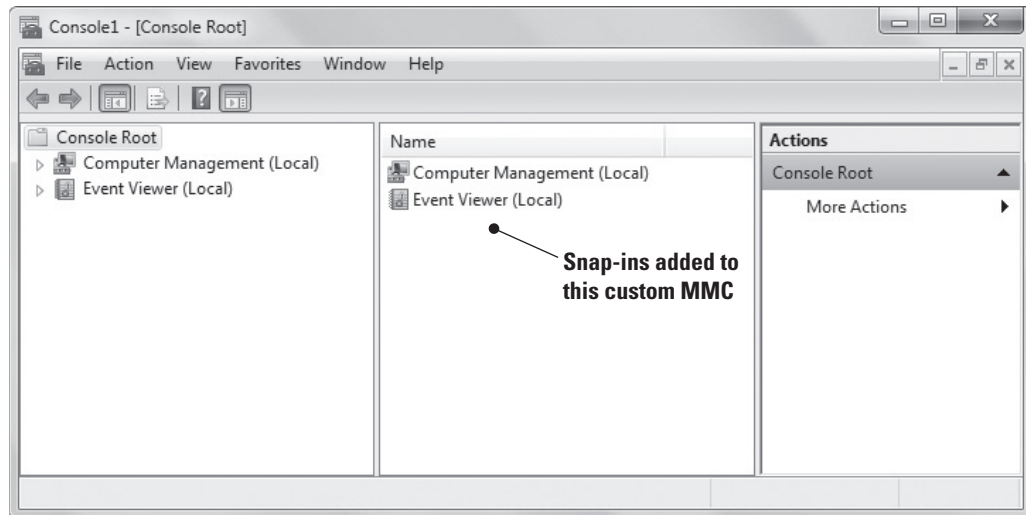


In the dialog box that displays, leave **Local computer** selected (unless the computer you want to manage is one other than the current computer).

4. Click **Finish**. The snap-in is added to the Selected snap-ins pane on the right.
5. Repeat Step 3 and Step 4 for each snap-in you want to include in the custom MMC. Figure 3-44 shows the Console window with a few snap-ins added.

Figure 3-44

A custom MMC



6. Click **OK**.
7. Click **File > Save As**. In the **File name** text box, type a name for the custom MMC and then click **Save**.

To avoid exposing a computer to malicious attacks, Microsoft recommends that you use MMC snap-ins when you are not logged on as Administrator.

Using Windows PowerShell

The MS-DOS command window—accessed by clicking Start and typing **cmd** in the *Search programs and files* search box and selecting cmd.exe in the resulting list—doesn't provide all of the commands you might need. For scripting and other administrative tasks, you must use Windows PowerShell.

CERTIFICATION READY

What term describes the command-line interface used mainly by IT professionals to run scripts?

1.5

Windows PowerShell is a command-line interface used mainly by IT professionals to run cmdlets (pronounced *command-lets*), complete background jobs (processes or programs that run in the background without a user interface), and run scripts to perform administrative tasks. If you're familiar with the UNIX shell, Windows PowerShell commands should seem highly familiar.

The Windows PowerShell environment is built on the .NET Framework, which allows administrators to use many more tools and commands than the MS-DOS command window environment. PowerShell and the MS-DOS command environment are compatible, however. For example, you can run Windows command-line programs in Windows PowerShell and also start Windows programs like Calculator and Notepad at the Windows PowerShell prompt.

Another feature of Windows PowerShell is remoting. Administrators can use cmdlets to access remote computers or use the Windows PowerShell Remoting service to run commands on

remote computers or even many remote machines. Windows PowerShell Remoting can require substantial setup, which is not within the scope of this book.

+ MORE INFORMATION

For more information about Windows PowerShell, visit the Windows PowerShell Getting Started Guide at <http://msdn.microsoft.com/en-us/library/aa973757%28v=vs.85%29.aspx>. Windows PowerShell Remoting commands can be found at [http://msdn.microsoft.com/en-us/library/ee706585\(v=vs.85\).aspx](http://msdn.microsoft.com/en-us/library/ee706585(v=vs.85).aspx)



RUN A CMDLET IN WINDOWS POWERSHELL

GET READY. To run a cmdlet in Windows PowerShell, perform the following steps:

1. Click **Start > All Programs > Accessories**, click the **Windows PowerShell** folder, and then click **Windows PowerShell**. (Alternately, click **Start**, and in the **Search programs and files** search box, type **powershell**. In the results list that displays, select Windows PowerShell. The **Windows PowerShell** window displays.
2. A commonly used command is **ps** (or **get-process**). The **ps** command lists the currently running processes and their details, such as the process ID, process name, and percentage of processor usage (CPU). Type **ps** and press **Enter**. (See Figure 3-45.)

Figure 3-45

Running the **ps** command in Windows PowerShell

```

Windows PowerShell
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PS C:\Users\Kim> ps

Handles      NPM(K)      PM(K)      WS(K)      UM(M)      CPU(s)      Id ProcessName
-----
66           9         1784       5780       70         0.02      3428 acrotray
46           4         1300       2888       15         0.02      1968 AESTSR64
187          17         2684       7940       79         0.02      1996 AppleMobileDeviceService
80           11         1608       4076       50         0.02      1056 ArcNameService
75           8          1212       3884       42         0.02      1944 armsvc
316          11         3068       7460       79         0.02      1276 atieclxx
120           7          1708       4572       32         0.02      932 atiesrxx
131          10         17068      17472      54         0.02      3712 audiodg
482          34         25872      49088      219        0.02      1072 CarboniteService
345          32         11436      27164      185        0.02      3600 CarboniteUI
762          73         64272      7744       648        5.88      5984 GCC
2759         71         29424      12836      347        0.02      3032 ccsvchst
595          35         9040       10220      136        0.02      3536 ccsrchst
6666         11         6604       6400       68        0.02      1292 CinemaNowSvc
31           4          1080       2816       25        0.02      1560 conhost
66           9          3440       8564       75        0.16      5156 conhost
1049         16         2616       4972       50        0.02      452 csrss
754          29         4908       9760      101        0.02      580 csrss
120          10         2900       7728       57        0.02      5696 dllhost
206          22         11736      15856     111        0.25      2132 DPAgent
30           6          1756       4112       46        0.02      3420 DpAgent
223          27         12664      23784     110        0.02      1692 DpHostW
49           6          2020       4648       65        0.02      2784 dpupdchk
453          35         45204      49200     157        11.54      2312 Dropbox
303           9          1992       5184       50        0.02      1800 DUMExportService
137          18         34816      39256     156       122.10      2140 dwm
282          21         8760       16780       98        0.02      488 EvtEng
1252         89         81204      115360    383       124.58      2172 explorer
627          83        211772      235124    479       38.49      5420 firefox
283          37         33328      11352     568        0.51      1588 hpGasInotification
73           7          1108       3772       42        0.02      2552 HPDrvMntSvc
  
```

3. To get help with the **ps** command, type **get-help ps** and press **Enter**.
4. To view running services, type **get-service** and then press **Enter**. A list of services displays, along with their status (Running or Stopped).

TAKE NOTE *

You'll learn about managing services in Lesson 4 using the MMC; for now, know that you can use the PowerShell commands **Stop-Service servicename** and **Start-Service servicename** to accomplish the same tasks.

5. To exit the Window PowerShell window, type **exit** and then press **Enter**.

SKILL SUMMARY

IN THIS LESSON YOU LEARNED:

- Internet Explorer 9 is the latest Web browser from Microsoft. The Internet Explorer 9 interface includes enhanced user features, such as a large Back button, a combined Address bar and search box, One Box, the New Page tab, and the ability to pin sites to the Windows 7 taskbar.
- Internet Explorer 9 security and privacy features include ActiveX Filtering, SmartScreen Filter, a Cross-Site Scripting (XSS) Filter, InPrivate Browsing, Tracking Protection, and domain highlighting.
- Windows 7 native applications include accessory programs such as Calculator, Notepad, and Paint, plus much more. The Snipping Tool allows you to capture, save, and annotate screen shots. Windows Media Player is a versatile music and video player, with the ability to view slide shows of photos, share media across a network, and burn and rip CDs.
- Windows Media Center turns your computer into a digital video recorder, allowing you to record and play back TV programs, including HDTV. You need a TV tuner and a subscription to a TV programming service (such as cable).
- Sync Center is a feature in Windows 7 that allows you to sync files between a computer and a network location, and between a computer and some mobile devices.
- Windows Mobility Center is a control panel of sorts that gives you access to several laptop settings, from volume to screen brightness to power options to WiFi and Bluetooth settings—all in one place.
- Windows 7 Remote Desktop Connection allows you to access another computer on a network or over the Internet and use the computer as if you were sitting in front of it.
- Windows Remote Assistance is similar to Remote Desktop Connection. Remote Assistance allows one person to connect to another user's computer to provide "hands-on" help.
- You can access Administrative Tools from the Microsoft Management Console (MMC) and even create your own custom MMCs.
- Windows PowerShell is a command-line utility that enables administrators to perform many administrative tasks, similar to MS-DOS and UNIX commands.

■ Knowledge Assessment

Fill in the Blank

Complete the following sentences by writing the correct word or words in the blanks provided.

1. _____ is a feature in Internet Explorer 9 that incorporates search functionality into the Address bar.
2. A _____ is an Internet Explorer 9 Web site you "attach" to the Windows 7 taskbar.
3. _____ helps prevent personal information and browsing history from being stored by Internet Explorer 9.
4. The _____ detects threats on Web sites, such as phishing attacks and malware downloads, and prevents them from running.

5. _____ is an accessory program that comes with Windows 7 that allows you to take screen shots, annotate them, and save them.
6. _____ is a feature of Internet Explorer 9 that helps you control which Web sites can track your online browsing activity and receive that information.
7. After you synchronize files between your computer and a network location, the files you use on your computer are referred to as _____.
8. _____ allows you to set up a computer for remote access and then connect to that computer wherever you may be.
9. An MMC _____ is a utility provided by Microsoft or a third party that's accessible through a common interface, such as Administrative Tools.
10. _____ is a command-line interface used mainly by IT professionals to run cmdlets, background jobs, and scripts to perform administrative tasks.

Multiple Choice

Circle the letter that corresponds to the best answer.

1. Which of the following is not a security or privacy feature of Internet Explorer 9?
 - a. InPrivate Browsing
 - b. Pinned site
 - c. ActiveX Filtering
 - d. Domain highlighting
2. Which of the following can you do with the Snipping Tool?
 - a. Annotate an image with the pen tool
 - b. Change the color of a captured image
 - c. Add typed callouts
 - d. Save in PDF format
3. You want to use the Run command, however, the program requires elevated or administrative privileges. When you right-click the program to run it, which command do you select from the shortcut menu?
 - a. Run elevated
 - b. Run protected
 - c. Run with permission
 - d. Run as administrator
4. Which of the following can you do with Windows Media Player 12? (Choose all that apply.)
 - a. Stream video files over the Internet
 - b. Rip music from a CD
 - c. Play a slide show
 - d. Create playlists
5. Where do you configure security zones in Internet Explorer 9?
 - a. Internet Options Security tab
 - b. Internet Options Privacy tab
 - c. Safety menu
 - d. Tracking Protection window
6. You want to run the ps cmdlet. Which utility do you use?
 - a. MS-DOS command window
 - b. Windows Remote Assistance
 - c. Windows PowerShell
 - d. Computer Management

7. Which of the following are accessible from the Computer Management window? (Choose all that apply.)
 - a. Event Viewer
 - b. Performance Monitor
 - c. Remote Desktop Connection
 - d. Disk Management
8. You want to access your home computer from work to get a file you worked on last night. Which program can you use?
 - a. Disk Management
 - b. Remote Desktop Connection
 - c. Windows Remote Assistance
 - d. Sync Center
9. Which of the following is an option in Windows Media Center but not in Windows Media Player?
 - a. Record TV programming
 - b. Watch recorded TV
 - c. Share files over a network
 - d. Create playlists
10. Where can you find the program to help you use a projector connected to your computer?
 - a. The All Programs Accessories folder
 - b. Computer Management console
 - c. Administrative Tools folder
 - d. Windows Media Player

True / False

Circle T if the statement is true or F if the statement is false.

- | | | |
|---|---|--|
| T | F | 1. You can click and drag a Web site's thumbnail that appears on the Internet Explorer 9 New Tab page to the taskbar to pin it. |
| T | F | 2. Remote Desktop Connection and Windows Remote Assistance are the same program used in different ways. |
| T | F | 3. Windows Remote Assistance sessions are encrypted for safety. |
| T | F | 4. Remote Desktop comes with all editions of Windows 7; however, you can only connect to computers running the Professional, Ultimate, or Enterprise editions. |
| T | F | 5. Windows Mobility Center includes access to power plans and screen brightness. |

■ Competency Assessment

Scenario 3-1: Securing Internet Explorer 9

Your co-worker Preena is finalizing a big project for a medical client and has many sensitive client files on her computer. She asks you to help her make her computer as safe as possible while accessing the Internet. What do you do?

Scenario 3-2: Offering Remote Assistance

Your sales people travel extensively and often need technical assistance with configuration settings on their laptops running Windows 7. Which feature or program do you use to provide remote support for these employees?

■ Proficiency Assessment

Scenario 3-3: Pinning Multiple Web Sites

Roberta is a high-tech researcher who uses the Bing search site and the Microsoft Web site daily. She wants to access the sites quickly whenever she uses Internet Explorer. How do you advise her on how she can access sites quickly?

Scenario 3-4: Creating a Playlist

You provide technical support to a small dental practice. The office manager, Shanice, hands you several company-owned music CDs. She wants the music piped to the lobby area where patients wait to be seen for their appointments. The computer used at the receptionist's desk is running Windows 7 and has wireless speakers that can be set up in the waiting area. What is one method of providing the requested music without spending additional money?